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Saskatchewan
Parks, Recreation
and Culture

Hon. Colin Maxwell
Minister

Saskatchewan Game Management 1986-87

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SASKATCHEWAN
GAME MANAGEMENT
1986-1987

Compiled by
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A B S T R A C T

HUNTING LICENCE SALES AND GAME HARVEST ESTIMATES
1984 to 1986

	Licence Sales*				Harvest	
	1984	1985	1986	1984	1985	1986
1. Big Game						
White-tailed Deer	57,754	48,807	52,160	38,820	19,861	34,742
Moose	9,945	10,507	11,486	3,223	2,068	3,566
Mule Deer	12,889	16,609	12,196	10,950	16,311	9,650
Antelope	3,015	3,181	3,279	2,031	1,718	2,534
Elk	4,482	4,322	4,060	1,051	478	868
Black Bear	4,899	7,534**	7,881**	1,778	1,038	2,391
Woodland Caribou	182	152	128	23	24	45
Barren-ground Caribou	41	42	51	unk.	unk.	46
BIG GAME TOTAL	93,207	91,154	91,241	57,876	41,498	53,842
		87,970***	88,752***			
2. Game Birds	1984	1985	1986			
Sask. Resident	40,102	38,243	41,317			
Canadian Resident	2,125	2,181	2,158			
Non-Resident	3,277	3,497	3,731			
TOTAL	45,504	43,921	47,206			
Ducks				182,706	152,978	181,077
Geese				162,219	176,362	159,111
Sandhill Crane				3,110	6,202	7,480
Sharp-tailed Grouse				54,233	41,788	78,565
Hungarian Partridge				59,794	41,998	92,270
Ruffed Grouse				12,986	15,074	47,978
Spruce Grouse				4,345	4,229	11,883
Pheasant**				12,169	7,084	10,557
GAME BIRD TOTAL				491,562	445,715	588,921

GROSS REVENUE FROM LICENCE SALES

	1984	1985	1986	1986 vs 1985 % Change
Big Game	2,592,640	2,518,125	2,511,380	-0.3%
Game Birds	834,970	841,180	894,170	+6.3%
TOTAL	3,427,610	3,359,305	3,405,550	+1.4%

* final licence sale figures June 1, 1987

** includes free tags issued to big game licence holders for WMZ 58 to 61

***total sales excluding free bear tags

EXECUTIVE SUMMARY

Big Game

Licence sales totalled 88,752 (excluding free bear tags) representing a 0.8% increase from 1985 and a 5% decline from 1984. Mule deer quotas were significantly reduced in 1986 but more white-tail deer and moose licences were sold in response to moderate temperatures during the November hunting seasons. Big game licence revenue declined slightly in relation to 1984 and 1985 but remained high at over $2.5 million.

With excellent hunting conditions during all seasons, the **white-tailed deer** harvest increased dramatically from 19,860 deer in 1985 to 34,742 deer in 1986; hunter days/animal decreased as a function of higher success rates. The provincial whitetail harvest was similar to 1982 and 1983 but remains below the long term average of 36,285 deer. Populations have remained low in Southeastern and East-central Saskatchewan following the severe 1984-85 winter. Grassland, Farmland and Parkland zones in western and central Saskatchewan support relatively good populations; slow expansion is evident in the white-tailed deer populations of some southwestern zones. The Forest Fringe and Forest zone deer populations are increasing and currently support above average densities. All populations are expected to increase in 1987 as a result of the extremely mild 1986-87 winter and excellent spring fawning conditions.

The harvest of **moose** increased from 2068 in 1985 to 3566 in 1986 (the highest harvest level since 1980) as a result of more hunters in the field and higher success rates. In the commercial forest zones, the majority of hunting activity and harvest occurred during the late special and regular seasons. Populations are increasing throughout most forest zones but densities remain extremely low in central Saskatchewan.

The **mule deer** harvest decreased by 59% from 16,311 to 9,650 animals in 1986 as a result of a reduction in the antlerless quotas and elimination of the 2 deer bag limit for antlerless hunters. Management efforts, aimed at the antlerless segment of the herd, were successful in lowering populations sufficiently to alleviate landowner/wildlife problems and stabilize herd structure while optimizing recreation opportunity. For 1987 mule deer quotas are designed to maintain current population levels in the primary (Sandhills) zones and promote moderate population increases in peripheral zones.

The **elk** harvest increased to 868 in 1986 from 478 animals in 1985 but remained below the high 1984 harvest (1,051). An extensive aerial sex-age survey, carried out to investigate populations in northeast forest zones, indicated acceptable bull/cow ratios with a high proportion of yearling bulls and normal calf production. Populations in most zones appear to be stable or increasing slightly in response to management programs.

The **antelope** harvest increased to 2,533 in 1986 from 1,718 animals in 1985 in response to good hunting conditions and high success rates. Mild winters and improving range conditions since the 1984 and 1985 drought years have resulted in excellent reproduction and an estimated provincial population in excess of 12,500 animals. The species population objectives identified by the department for the mid-1980's are presently being met although hunting demand continues to exceed the supply of animals.

The **bear** harvest increased substantially to 2,391 in 1986 from 1,038 in 1985 with more active hunters and higher success rates. Field reports indicate bear populations remain high throughout all forest zones.

Although **woodland caribou** sport harvest and hunting pressure has been low in recent years, wildlife managers are concerned that hunting may add significantly to the impact of road access, and forest harvesting in reducing or eliminating local herds. Aerial surveys from the Weyakwin and Creighton areas, thought to be representative of good caribou range, indicate densities of 0.02 caribou/km^2, less than one-fifth the densities reported from the Dore Lake area in 1960.

In view of the low densities, a complete closure of all zones will be implemented in 1987 and maintained until caribou populations improve significantly. The department will continue to investigate factors contributing to low caribou numbers.

The **1987 big game hunting seasons** are highlighted by a number of changes to season lengths, bag limits and hunting opportunity. To increase hunting opportunity and simplify the white-tailed deer licencing system, a single whitetail licence for all weapon types will be implemented in 1987. The licence will be valid in the archery, muzzleloader or rifle seasons provided that the hunter adheres to the required weapon and dress restrictions. Unsuccessful archers and muzzleloaders will now be able to use their unfilled either-sex white-tailed deer licence in the November seasons. Rifle hunters who traditionally hunt in the November season will now have the additional opportunity to hunt in the archery and muzzleloader seasons provided they use the designated primitive weapon. Once the licence is filled it is no longer valid.

For **white-tailed deer**, the 2 week regular season will be maintained in all southern WMZ's with a 1 deer bag limit. The Canadian resident restriction in WMZ 16, 17 and 31 to 34 will be continued and expanded to include WMZ 35 in 1987 due to the close proximity of this zone to the Manitoba border and the high local harvest in 1986. The antlered deer restriction in WMZ 38 will be continued in 1987. WMZ 39 will be included with WMZ 37 in the existing 1 week bucks only and 1 week either-sex season in order to reduce harvest pressure in these zones. The antlerless white-tailed deer season in WMZ 2 (east of #4 highway only) and WMZ 6 for mule deer licence holders will continue for 1987 to direct harvest pressure towards does and fawns. A new antlerless season will be implemented in part of WMZ 11 and 14 (Leader to the Alberta border) during the primitive weapons seasons in order to reduce deer populations associated with irrigated alfalfa fields.

The early and late white-tailed deer seasons in WMZ 56 to 61, 66 and 69 will continue with the addition of a two deer bag limit to capitalize on currently high deer densities. WMZ 67 and 68 will have a two deer bag limit but no early season. The late season will be maintained with a one deer bag limit in WMZ 62 to 65 and 70 to 76. A Canadian and non-resident archery season (1 deer bag limit) will be implemented in northern zones during 1987 in response to interest from local outfitters and the Saskatchewan Bowhunters Association.

The **moose** season dates and quotas will be similar to 1986 except for a new quota of 100 licences in WMZ 54, a reduction of 50 licences in WMZ 55 and 68 combined, and elimination of the late season and extension of the early season in WMZ 74 to 76. A new 50 licence archery season will be implemented in WMZ 37 (Duck Mountain Park) to provide archers with a new moose hunting opportunity on the east side of the province.

The **mule deer** season will be extended in most zones to provide additional hunting opportunity. Either-sex quotas have been reduced slightly from 8,100 to 8,000 licences (all weapon types). The antlerless quotas have been reduced by 58% to 2,650 licences because the management objective of reducing mule deer populations in the key southwest zones has been achieved. The 12 to 15 year old hunters will again be allowed to apply for an antlerless licence to introduce first time hunters to big game hunting.

The **elk** season dates and quotas will be similar to 1986 except for a 50 licence reduction in the Cypress Hills West Block, a new either-sex quota of 50 licences in WMZ 59, and an additional 100 licences in WMZ 48, 49, 56 and 57 combined.

The bulls-only season in WMZ 43 and Nipawin Provincial Park and the either-sex season in WMZ 54 will be discontinued in 1987.

The regular **antelope** season dates will be extended to overlap with mule deer for 1987. In 1986, 75% of antelope hunters also held a mule deer licence and interest was expressed in hunting both species during the same time period. Quotas may be increased slightly in response to increased populations pending surveys in July 1987.

The **black bear** season structure and bag limits will not change in relation to 1986 although revisions are anticipated for the 1988 hunting season.

The **woodland caribou** season will be closed province-wide in 1987 in response to low populations. The Wildlife Branch will continue investigations to determine the status of the provincial population and factors contributing to population declines in recent years.

The **barren-ground caribou** bag limit remains unchanged for 1987 but the season dates will be extended to March 31, 1988 for the benefit of WMZ 76 residents.

Game Birds

1986 **licence sales** totalled 47,206 compared to 43,921 in 1985. Provincial residents purchased 41,317 licences (up 8%) while out of province Canadian licence sales (2,158) were down 1% and non-resident licences (3,731) were up 7%. Separate cock pheasant licences have not been required since 1982. Higher upland bird populations and good goose hunting were primarily responsible for the increase in licence sales. About 590,000 game birds were harvested in 1986, up 32% from the 446,000 recorded in 1985.

The major change in waterfowl regulations in 1986 was an increase in the duck bag limit to six birds per day from the limit of four during the 1985 season although restrictive bag limits of four per day were maintained on mallards. Active waterfowl hunters totalled 34,821 in 1986 but remained 25% below the 1973-1985 average of 46,420. Good goose hunting increased waterfowl hunter activity 14% above 1985 levels.

The **duck** harvest of 181,077, 69% of which were **mallards**, was up 18% from the

153,000 reported in 1985 and equivalent to 1984 levels. The 1986 mallard reproduction index of 3.00 immature per adult was 47% above the long-term average of 2.04. May 1987 pond counts of 1.42 million were down 40% from 1986 and remained 44% below the 1970-1979 average. Mallards breeding in southern Saskatchewan were estimated at 1.28 million, down 20% from 1986 and 51% below the 1970-1979 average. Pintail numbers were down 38% from 1986 and blue-winged teal and redhead breeding populations were also low. In an effort to maintain hunter interest in ducks, the 1987 bag limit has been left at six ducks per day. Due to continued continental concern for the mallard, the daily bag for this species remains at four. Saskatchewan Parks, Recreation and Culture predicts that the 25% harvest reduction on mallards called for in the North American Waterfowl Management Plan can be achieved with similar bag limits to 1986.

The 1986 **goose** harvest decreased to 159,111 birds from the 176,362 reported in 1985. **White-fronted geese** and **snow geese** each accounted for 22% of the harvest while the **Canada goose** harvest of 85,642 accounted for 54%. 1987 spring surveys showed local nesting Canadas' equivalent to 1986 levels. Arctic goose production should be better than 1986 levels although snow and Ross' goose nesting efforts in the central Arctic may be poor for the second consecutive year. Goose hunting should be good in 1987 and bag limits remain the same.

The 1986 **sandhill crane** harvest increased by 21% to 7,480 birds and was 79% above the 1979-1985 average. The Last Mountain Lake area provided 69% of the harvest. Bag limits in 1987 will remain at 5 birds per day with similar season dates to 1986.

The 1986 **sharp-tailed grouse** harvest increased by 88% to 78,565 birds from the 14-year low recorded in 1985 (41,788). Sharptails remain the number one upland bird in terms of hunter days generated (28,761) followed closely by Hungarian partridge. For the second consecutive year sharptail reproduction was excellent especially in the Grasslands (2.2 young per adult). Provincially, the 1986 reproductive index (from wing samples) was 1.68 juveniles per adult in the harvest. Spring breeding surveys in 1987 on 28 areas showed a 34% increase in sharptail numbers in relation to 1986. Habitat conditions improved in response to fall rains; this improved quality in habitat provided better nesting cover in the spring of 1987. Populations in 1987 are higher than 1986 and the 1987 bag limit has increased to five birds per day in the Grasslands and most Farmland zones. Season dates will be similar to those of 1986 in the south (September 21 opening) with a 6 day delay in the north due to the calendar roll-over.

For the fourth consecutive year **Hungarian partridge** harvest surpassed the sharp-tailed grouse harvest in Saskatchewan. A total of 92,270 partridge were harvested in 1986, which was more than double the 1985 harvest of 42,000. The reproductive index for 1986 was 5.5 juveniles per adult in the harvest, up by 83% in relation to the 1957-1983 average and the highest on record. Spring surveys of 377 farmsteads in 1987 show a 81% increase in the overall provincial population including a significant increase in the Parkland populations. Bag limits have been increased in some Farmland and Parkland zones and prospects for partridge hunting are excellent for the fall of 1987.

An estimated 4,770 **pheasant** hunters took to the field in 1986 harvesting 10,557 cocks compared to 7,084 harvested in 1985. Active hunters increased by 29% and hunter days by 50%. The traditional late season was cancelled in 1986 due to concern for perceived low populations. Reproduction in 1986 improved as greater rainfall in prime habitat areas produced a recovery in habitat quality. Spring surveys in 1987 along 14 routes showed increased populations relative to 1986 levels (up 175%) with an average of 4.86 crow calls per survey stop. All 14 survey areas showed increases this spring and with higher spring populations, hunters can expect a good year in 1987. The bag limit has been maintained at 3 cocks per day and the traditional late season has been reinstated in Zones 1 to 20 and 31 for the 1987 season.

Ruffed grouse populations are presently entering the increase phase of the apparent 10-year cycle of this species and in 1986 the reported kill tripled to 47,978 ruffed grouse. The 1986 reproductive index estimated on the basis of wing samples was 3.37 juveniles per adult. This estimate is 44% above the 1979-85 average and reflects a second consecutive year of good production.

Spring surveys in 1987 along 25 routes showed decreased counts of drumming males (14%), but the timing of these surveys is felt to have missed the peak of reproductive activity. In response to increasing populations, bag limits in northern zones have been increased from five to ten birds daily. Ruffed grouse hunting should improve for the next four or five years as populations build towards their cyclic peak.

The 1986 **spruce grouse** harvest doubled to 11,883 birds as a probable consequence of increased ruffed grouse hunter activity. Because spruce grouse are not highly regarded as a table bird, harvest is largely opportunistic by ruffed grouse hunters and increases when ruffed grouse populations peak. This species is believed to cycle concurrently with ruffed grouse populations and 1987 bag limits have increased to 10 birds per day in all open zones except Zone 43.

At present the level of annual **ptarmigan** harvest is unknown although most utilization is limited to northern residents. The 1987 game bird hunter questionnaire has been modified to obtain an estimate of hunting activity and harvest for this species. The 1987-88 season dates have been extended slightly to coincide with the barren ground caribou season.

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BIG GAME

GENERAL

1986 HUNTING REGULATIONS

Hunting season dates, bag limits and licence quotas for each big game species are presented in Appendix 1.

All mule deer, antelope and special moose and elk licences, were available only through a computerized draw (Appendix 2). As in previous years, resident hunters could purchase bull/calf moose and antlered elk licences if they were not successful in the special licence draws for these species. A total of 208 guided moose licences were sold to non-residents of Saskatchewan.
White-tailed deer, black bear and woodland caribou licences were available to resident, Canadian resident and non-resident hunters. Only residents of WMZ 76 were eligible for barren-ground caribou licences.

Hunters were allowed to purchase only one white-tailed deer licence, with the exception of an additional antlerless whitetail licence available to mule deer hunters in WMZ 2 and 6.

DATA COLLECTION TECHNIQUES

Licence Sales

Department of Parks, Recreation and Culture, Revenue Section, tabulated and mailed computerized draw licences directly to hunters.

White-tailed deer, woodland caribou, black bear, regular moose and regular elk licences are purchased through approximately 1,200 commercial vendors and Saskatchewan Parks, Recreation and Culture district offices distributed throughout the province. Vendors return sold and unsold licences to Saskatchewan Parks, Recreation and Culture Revenue who are then able to determine provincial licence sale figures for each big game species.

It is important to note that since final licence sale figures do not become available until June of the following year, all hunter survey statistics in this report use projected licence sales estimates derived from SPRC figures to the end of February and compared to total licence sales from the previous year. This accounts for small discrepancies between actual licence sales and estimates of active hunters for some seasons.

Hunter Survey

In November 1986, 27,500 big game questionnaires were mailed to resident Canadian resident and non-resident alien hunters (Appendix 3). These hunters were randomly selected from among the 1985 big game regular licence holders and the 1986 computerized draw licence holders.

Follow-up questionnaires were mailed in early January 1987 to hunters who failed to reply to the first questionnaire. The cut-off date for return of questionnaires was February 15, 1987. Returned forms were edited and the data entered into a computer. The data print-out was available for analysis by March 2, 1987 incorporating usable data from 14,639 questionnaires or 53 per cent of the total questionnaires mailed to hunters.

Checking Stations

All hunters using designated check stations for big game in Saskatchewan were eligible to enter a draw for major prizes. All hunters providing biological samples received a Wildlife Co-operator Lapel Pin.

Two Saskatchewan Parks, Recreation and Culture checking stations were used along with 10 private co-operator collection points to obtain age and sex information for moose and elk. Age determinations for animals older than calves were based on tooth (incisor) cementum deposition.

Saskatchewan Parks, Recreation and Culture Wildlife staff operated two white-tailed deer check stations during the regular deer season to gather sex and age harvest data. Various branches of the Saskatchewan Wildlife Federation from southeastern Saskatchewan also assisted with jaw collections in 1986. This successful program may be expanded to other parts of the province in 1987.

Mule deer harvest information was obtained at two department-operated check stations in WMZ 11 and 12 during 1986.

Population Surveys

Aerial surveys are conducted during the winter months to estimate population levels, herd segregation and productivity in selected moose, white-tailed deer, mule deer, woodland caribou and elk populations. January and February white-tailed deer population estimates were obtained using a stratified random block survey design. Moose transect surveys and stratified random block surveys were employed to obtain population trend and density data, respectively, for winter moose populations. Antelope trend data population was obtained from July transect aerial surveys. Mule deer quadrat and transect surveys were conducted within selected areas to document population status in major southwestern habitat blocks.

Sex and age composition estimates for moose, elk, white-tailed deer, mule deer and antelope populations were based on aerial observation data.

A population structure investigation (Co-operative Wildlife Management Study) continued for all big game species with the assistance of Conservation Officers, Saskatchewan Wildlife Federation members and the general public (Appendix 4). Co-operators classified observed animals by sex (adult male vs adult female) and age (fawn vs adult) class, and provided information on antler development for males observed in the survey.

Wildlife Management Zones

The new wildlife management (WMZ) map introduced in 1984 is a standard reference throughout this report (Appendix 5). Direct comparisons between these zones and the former game zones are not valid without compensation for zone boundary changes.

1986 BIG GAME HUNTER SURVEY STATISTICS

Species	Actual* Licence Sales	Projected** Licence Sales	Active Hunters	Hunter Harvest	Hunter Success	Days of Recreation
White-tailed Deer						
Regular	49,080	50,582	49,195	33,371	68%	176,451
Antlerless	1,152	1,210	1,160	848	73%	2,216
Archery	1,341	1,360	1,253	246	20%	8,944
Muzzleloading	587	612	580	277	48%	2,592
Sub-total	52,160	53,764	52,188	34,742	66%	190,203
Moose						
Regular	9,159	9,363	8,206	2,554	31%	39,676
Special	2,088	2,082	1,953	910	47%	9,531
Archery	31	31	30	6	20%	142
Guided	208	208	208	96***	46%	624***
Sub-total	11,486	11,684	10,397	3,566	34%	49,973
Mule Deer						
Regular	6,860	6,836	6,658	5,813	87%	12,469
Antlerless	4,046	4,042	3,834	3,417	89%	5,467
Archery Either-Sex	948	946	877	237	27%	4,367
Archery Antlerless	67	72	71	10	14%	280
Muzzleloading Either-Sex	152	152	145	92	63%	495
Muzzleloading Antlerless	123	123	117	81	69%	314
Sub-total	12,196	12,171	11,702	9,650	83%	23,392
Antelope						
Regular	2,983	2,994	2,876	2,471	86%	5,180
Archery	296	296	274	63	23%	1,101
Sub-total	3,279	3,290	3,150	2,534	80%	6,281
Elk						
Regular	2,819	2,879	2,657	462	17%	11,551
Special	1,241	1,232	1,158	406	35%	5,362
Sub-total	4,060	4,111	3,815	868	23%	16,913
Black Bear						
1st Regular	4,813	5,033	4,411	1,764	40%	18,595
2nd Regular	579	581	474	204	43%	1,839
Free tags	2,489	2,489	1,564	423	27%	5,297
Sub-total	7,881	8,103	6,449	2,391	37%	25,731
Woodland Caribou	128	128	117	45***	38%	516***
Barren-ground Caribou						
1st Regular	33	33	33	30***	90%	66***
2nd Regular	18	18	18	16***	89%	36***
Sub-total	51	51	51	46	90%	102
TOTAL	91,241	93,302	87,869	53,842	50%	313,111

* Actual licence sales from vendor and SPRC records May 20, 1987

** Projected licence sales using preliminary SPRC figures available in March 1987. These projected sales are used to calculate the hunter survey statistics required to set the 1987 big game hunting seasons. This accounts for the discrepancy between actual licence sales and active hunters for some seasons.

***Represent projected figures based on 1985 estimates or 1986 field contacts.

NOTE: All figures include resident, Canadian resident and non-resident hunters.

NOTE: Figures do not include 193 free big game permits allocated to northern trappers with a reported harvest of 36 moose and 2 deer.

WHITE-TAILED DEER

A. REVIEW OF 1986 HUNTING SEASON

1. Licence Sales*

	1981	1982	1983	1984	1985	1986	% Change
1st Licence Sales							
Resident	63,543	57,320	50,309	49,603	45,532	48,432	+6%
Canadian Resident	1,316	1,095	607	705	786	491	-38%
Non-resident	124	68	68	60	136	157	+15%
2nd Licence Sales							
Resident (Antlerless)	---	---	---	---	419	1,152	+175%
Resident	6,757	6,433	4,594	4,971	---	---	---
Canadian Resident	49	41	19	9	---	---	---
Non-resident	---	21	0	6	---	---	---
TOTAL	71,810	64,957	55,600	55,356	46,873	50,232	+7%
Resident Archery	1,376	1,590	1,411	1,543	1,357	1,341	-1%
Resident Muzzleloading	---	368	575	684	577	587	+2%
TOTAL	73,186	66,915	57,586	57,583	48,807	52,160	+7%

* Final (June 1) sales figures; however all data analysis based on figures available in March and projected to June 1 (see page 4).

2. Hunting Activity and Harvest

- In comparison to the extremely cold 1985 November hunting season, the 1986 season exhibited moderate temperatures and light snow conditions throughout the province. Resident hunters increased by 6% to 48,432, taking advantage of the excellent hunting conditions and experiencing high success rates (66% versus 43% in 1985). Canadian resident licence sales dropped by 38% in response to restrictions implemented in southeastern Saskatchewan in 1986.
- On a provincial scale, harvest increased dramatically from 19,860 (1985) to 34,742 (1986) and hunter days/animal decreased from 7 (1985) to 5 (1986) in response to higher success rates (Tables 1 and 2; Figure 1). The provincial harvest was similar to 1982 and 1983 but remained below the long-term average of 36,285 (1978-1985).
- The Parkland, Grassland, Farmland, Forest and Forest Fringe ecological zones accounted for 33%, 23%, 22%, 14% and 8% of the provincial harvest, respectively (Table 1). These percentages represent a slight change from previous years, with the Grassland harvest exceeding the Farmland harvest as a result of improved populations and more liberalized hunting seasons in southwest Saskatchewan.
- The Parkland whitetail harvest declined in southeast Saskatchewan. This decrease is partially attributed to non-resident restrictions and a communication effort by the department encouraging hunters to reduce their hunting activity in WMZ 16, 17 and 31 to 34. Residual effects of the severe 1984-85 winter which caused high deer mortality are believed to have held southeastern deer populations below the carrying capacity of available habitat. The 1986 communications effort sought to shift harvest pressure away from these populations.
- Recreation days increased by 29% from 147,678 days (1985) to 190,203 (1986). Active hunter numbers went up from 46,071 (1985) to 52,188 (1986).
- Provincially, 49,195 regular, 1,160 antlerless, 1,253 archery, and 580 muzzleloader hunters accounted for 96%, 2%, 1%, and 1% of the harvest respectively; success rates for these respective season types were 68%, 73%, 19% and 48% (Table 1).

Table 1. Provincial white-tailed deer harvest, 1986

Ecological Zone	# Actual Hunters	# Zone Hunters	# Successful Hunters	% Hunter Success	Harvest	Harvest Structure			Hunter Days	Hunter Days/ Animal	Hunter Days/km2 In Zone
						Males	Females	Young			
GRASSLAND	10,988	12,992	8,124	73.9	8,129	2.07	1	0.39	29,015	4	0.4478
FARMLAND	12,378	17,040	7,912	63.9	7,944	2.00	1	0.33	41,378	5	0.4551
PARKLAND	17,510	21,800	11,326	64.7	11,358	3.07	1	0.48	65,142	6	0.6627
FOREST FRINGE	4,173	5,856	2,900	69.5	2,900	2.40	1	0.38	18,196	6	0.6934
FOREST	7,139	10,287	4,368	61.2	4,410	2.30	1	0.38	36,472	8	0.2206
SHIELD	0	0	0	0.0	0	0.00	1	0.00	0	-	--
TOTAL	52,188	67,974	34,631	66.4	34,742	2.38	1	0.40	190,203	5	0.4269

Season Type	# Actual Hunters	# Zone Hunters	# Successful Hunters	% Hunter Success	Harvest	Harvest Structure			Hunter Days	Hunter Days/ Animal	Hunter Days/km2 In Zone
						Males	Females	Young			
REGULAR	49,195	64,398	33,239	67.5	33,371	2.57	1	0.39	176,451	5	0.3939
ANTLERLESS	1,160	1,160	843	72.6	848	0.00	1	0.58	2,216	3	0.1494
ARCHERY	1,253	1,624	242	19.3	246	1.17	1	0.21	8,944	36	0.0200
MUZZLELOADER	580	792	277	47.7	277	0.97	1	0.30	2,592	9	0.0058
TOTAL	52,188	67,974	34,601	66.6	34,742	2.38	1	0.40	190,203	5	0.4269

Table 2. Provincial white-tailed deer harvest, 1980-1986

Ecological Zone	Harvest 1980	1981	1982	1983	1984	1985	1986	Percent Hunter Success 1980	1981	1982	1983	1984	1985	1986
GRASSLAND	3,524	4,224	4,243	3,893	6,110	3,840	8,129	62	56	61	61	83	47	74
FARMLAND	10,830	13,263	11,897	12,629	11,287	5,486	7,944	55	53	44	55	78	44	64
PARKLAND	17,376	15,109	13,047	11,255	13,608	7,384	11,358	63	55	52	57	78	44	65
FOREST FRINGE	---	---	---	---	2,145	1,336	2,900	--	--	--	--	67	45	70
FOREST	11,024	8,553	7,029	5,797	5,669	1,815	4,410	40	--	--	--	59	37	61
1ST LICENCE HOLDER	---	5,912	4,615	3,938	3,077	---	---	--	38	33	33	57	--	--
2ND LICENCE HOLDER	---	2,641	2,414	1,859	2,592	---	---	--	43	45	46	62	--	--
TOTAL	42,754	41,149	36,216	33,574	38,820	19,860	34,742	60	50	47	53	75	43	66

Ecological Zone	Hunter Days 1980	1981	1982	1983	1984	1985	1986	Hunter Days/Animal 1980	1981	1982	1983	1984	1985	1986
GRASSLAND	11,316	14,441	14,214	17,453	12,032	19,075	29,015	2.9	3.4	3.4	3.2	2	5	4
FARMLAND	39,346	50,058	48,212	48,474	30,286	40,442	41,378	3.4	4.7	4.1	3.8	3	7	5
PARKLAND	67,377	66,230	55,313	49,791	39,967	52,869	65,142	3.7	5.9	4.2	4.4	3	7	6
FOREST FRINGE	---	---	---	---	9,365	12,270	18,196	---	---	---	---	4	9	6
FOREST	50,696	59,394*	51,891*	47,937*	29,619*	23,021	36,472	5.9	6.9	7.4	8.3	5	13	8
1ST LICENCE HOLDER	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2ND LICENCE HOLDER	---	---	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	190,123	190,123	169,630	159,235	121,268	147,678	190,203	3.9	4.6	4.7	4.8	3	7	5

*Total 1st and 2nd licence hunting activity

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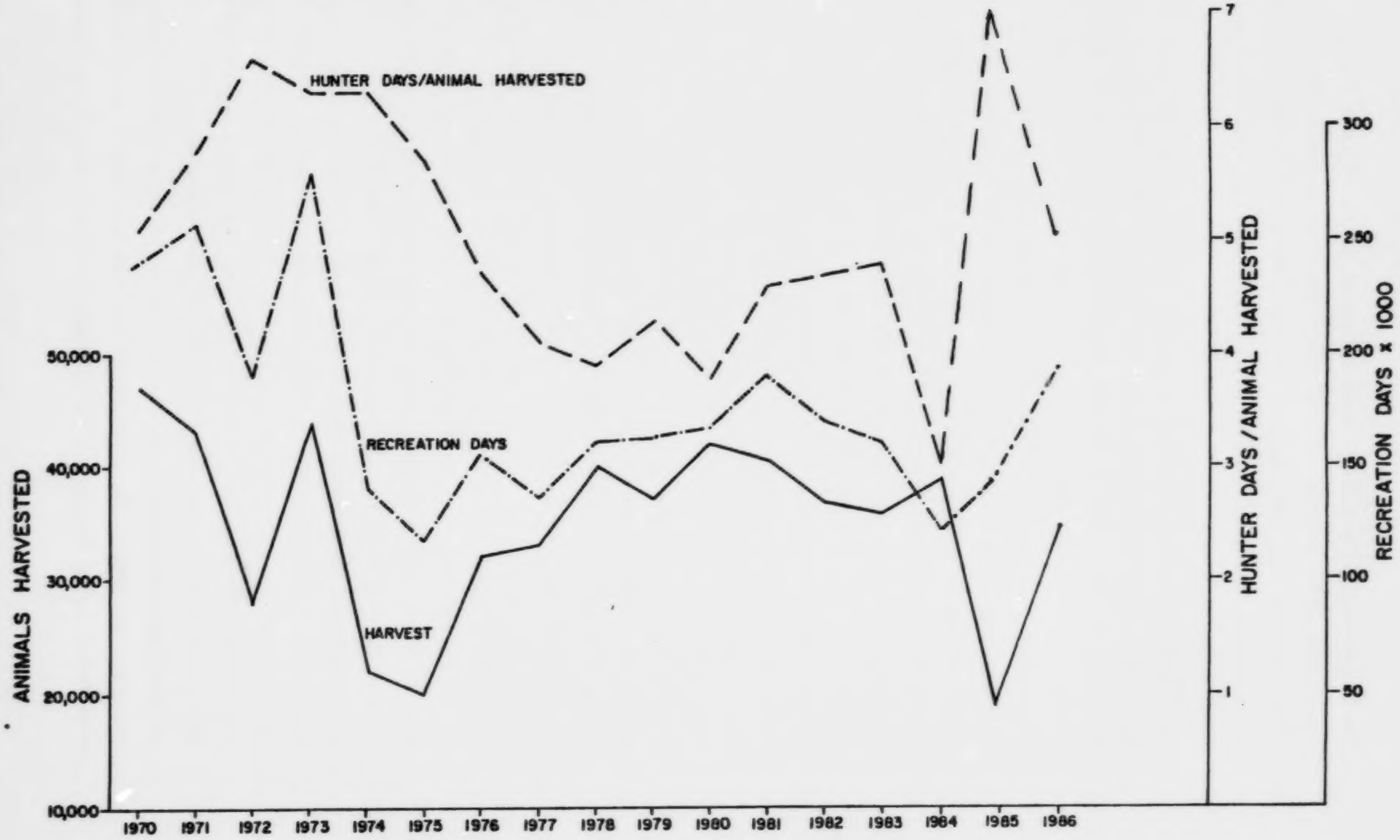
Figure 1. Estimated provincial hunter success and harvest pressure during the white-tailed season, 1970-1986



- The Grassland harvest (all weapon types) of 8,129 deer was more than double the 1985 harvest and is the highest recorded since the early 1970's (Table 3). The largest harvests occurred in WMZ 4, 6, 9 and 14, a slight change from previous years when WMZ 1 and 2 were the major harvest zones.
- The Farmland harvest (7,944) increased by 44% from 1985, but remained well below the long-term average of 10,898 (1980-1985; Table 4). Field reports of lower deer populations throughout the Farmland zones, particularly WMZ 16, 17 and 21 are cause for some concern. Despite mild winters in 1985-86 and 1986-87, mortality in the fawn and yearling cohorts following the severe 1984-85 winter may be contributing to low overall reproduction and slow population recovery. The department has been unable to obtain deer density estimates from aerial surveys in the Farmland zones due to survey design problems and poor snow cover conditions in recent winters. WMZ 15, 18, 19 and 30 presently support the majority of the Farmland harvest.
- The Parkland harvest of 11,358 deer, is considerably higher than 1985, but remains slightly below the long-term average of 12,963 (1980-1985). Low deer populations in the primary whitetail range of southeastern Saskatchewan (WMZ 31 to 34) following the severe 1984-85 winter are believed responsible for this situation (Table 5). WMZ 31 to 34 (southeast), WMZ 35 to 43 (east central), and WMZ 44 to 47 (northwest) comprised 23%, 52% and 25% of the harvest, respectively, compared with the traditional harvest of 40%, 35% and 24% in 1984. Of particular interest are WMZ 37, 39 and 46 where the 1986 harvests were 1,593, 1,318 and 1,058 deer respectively, which constitute the highest harvests on record for these zones (Table 6).
- It is apparent that lower deer populations in WMZ 31 to 34, and the department's communication effort encouraging hunters to hunt in zones closer to their residence (Table 7) had a noticeable effect upon hunter distribution. Traditionally, the southeastern Parkland deer hunters are comprised of 20-25% Regina hunters, 35% Yorkton/Humboldt/other hunters, with only 36 to 40% being local hunters. In 1986, 17%, 19% and 61% of the southeast deer hunters were found to be Regina, Yorkton/Humboldt/other and local hunters,

Table 3. Grassland either-sex white-tailed deer rifle harvest, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1	853	1,016	577	67.7	582	2.25	1	0.19	2,514	4	0.3021
2	924	1,101	593	64.2	593	2.41	1	0.09	2,423	4	0.2277
3	129	153	95	74.0	95	2.00	1	0.60	335	4	0.0780
4	879	1,048	720	81.9	720	2.35	1	0.32	2,134	3	0.2629
5	657	783	566	86.2	566	3.04	1	0.61	1,540	3	0.2581
6	1,155	1,376	900	77.9	900	4.67	1	0.63	3,298	4	0.7863
7	271	323	249	91.8	249	4.22	1	0.00	701	3	0.3697
8	226	270	185	81.8	191	2.20	1	0.40	453	2	0.1335
9	999	1,191	836	83.7	841	3.44	1	0.24	2,366	3	0.6888
10	715	852	513	71.8	513	2.50	1	0.23	1,793	3	0.5058
11	333	397	243	73.1	243	1.47	1	0.24	960	4	0.9746
12	155	185	79	51.1	79	3.67	1	0.33	356	4	1.0353
13	666	794	466	69.9	471	2.95	1	0.29	1,594	3	0.3903
14	1,208	1,439	1,027	85.0	1,032	2.51	1	0.47	2,932	3	0.5254
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	9,170	10,928	7,049	76.9	7,075	2.78	1	0.33	23,399	3	0.3611

Table 4. Farmland either-sex white-tailed deer rifle harvest, 1986

ECOLOGICAL DIVISION: FARMLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
15	980	1,349	789	80.5	789	2.49	1	0.33	2,479	3	0.3686
16	584	804	397	67.9	397	1.87	1	0.39	1,533	4	0.2889
17	815	1,122	534	65.6	534	1.78	1	0.38	2,636	5	0.6895
18	926	1,275	704	76.0	704	1.42	1	0.24	2,326	3	0.3123
19	1,042	1,434	741	71.1	741	2.32	1	0.37	3,135	4	0.3400
20	749	1,032	397	53.0	397	2.29	1	0.29	2,387	6	0.4314
21	1,045	1,439	587	56.2	587	1.74	1	0.18	4,025	7	0.4802
22	519	714	355	68.3	355	1.52	1	0.39	1,734	5	0.3664
23	807	1,111	540	66.9	545	3.18	1	0.50	2,605	5	0.4538
24	530	730	344	64.9	344	2.00	1	0.25	1,770	5	0.3666
25	369	508	233	63.1	249	2.08	1	0.54	1,067	4	0.1835
26	331	455	222	67.2	222	1.18	1	0.29	1,054	5	0.2335
27	304	418	233	76.7	233	1.35	1	0.24	1,165	5	0.2371
28	296	407	222	75.1	222	8.50	1	1.00	902	4	0.6659
29	1,122	1,545	683	60.8	688	1.88	1	0.29	3,553	5	0.6662
30	1,307	1,799	773	59.1	778	2.28	1	0.49	4,362	6	0.6015
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	11,727	16,146	7,753	66.1	7,784	2.03	1	0.34	36,734	5	0.4040

Table 5. Parkland either-sex white-tailed deer rifle harvest, 1986

ECOLOGICAL DIVISION: PARKLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
31	857	1,069	714	83.4	714	1.63	1	0.51	2,326	3	0.9222
32	959	1,196	704	73.4	704	1.63	1	0.47	2,416	3	0.8661
33	810	1,011	439	54.2	439	4.13	1	0.40	2,233	5	0.5750
34	1,192	1,487	804	67.5	804	3.86	1	0.38	4,140	5	0.7686
35	980	1,222	693	70.7	693	3.04	1	0.64	3,343	5	1.2791
36	683	852	302	44.2	307	4.56	1	0.89	2,030	7	0.3915
37	2,164	2,699	1,593	73.6	1,593	5.50	1	0.34	9,205	6	0.8135
38	636	794	265	41.6	265	264.60	1	0.00	2,551	10	0.3979
39	1,684	2,101	1,318	78.2	1,318	2.42	1	0.42	6,422	5	0.8446
40	390	487	233	59.7	233	2.80	1	0.60	1,448	6	0.2674
41	887	1,106	460	51.9	460	2.55	1	0.41	3,080	7	0.4271
42	1,052	1,312	677	64.4	683	4.43	1	0.71	4,957	7	0.6687
43	539	672	275	51.1	280	1.23	1	0.18	2,070	7	0.3123
44	1,005	1,254	603	60.0	603	2.59	1	0.63	3,256	5	0.7113
45	1,116	1,392	699	62.6	699	3.29	1	0.43	4,178	6	0.5451
46	1,455	1,815	1,053	72.4	1,058	2.98	1	0.67	6,280	6	1.0539
47	742	926	407	54.9	418	3.06	1	0.33	2,737	7	0.4786
	17,152	21,395	11,240	65.5	11,272	3.08	1	0.48	62,672	6	0.6376

Table 6. Total white-tailed deer harvest by year and WMZ, 1984-1986

Zone	1984	1985	1986
2	803	421	1121*
6	840	410	1268*
11	154	115	243
14	839	451	1087
15	1063	653	795
16	1195	421	406
17	654	230	540
21	1168	560	596
31	956*	869*	729
32	2072*	1152*	704
33	1185	368	439
34	1284	310	807
37	847***	536***	1614***
38	372**	175**	265**
39	866	485	1321
42	571	395	683
46	851	585	1064

*Includes special antlerless harvest
**Bucks only harvest
***1 week bucks only and 1 week either sex harvest

Note: All other zones in each year were subject to a two week either-sex harvest, except for a 9 day rifle season in Zones 2, 6, 11 and 14 in 1984 and 1985.

Table 7. Residency of Southeast deer hunters as determined from hunter check stations, 1984 to 1986.

Hunter Residence	% Southeast Deer Hunters 1984	1985	1986*
Local hunters from WMZ's 15, 16, 17, 31 to 34	36%	40%	61%
Regina	25%	20%	17%
Saskatoon	5%	5%	3%
Humboldt WMZ 40 to 43	--	--	11%***
Yorkton WMZ 36 to 39	--	--	3%***
Other	34%**	35%**	5%***

*Restrictions on Canadian residents and a media campaign by the department to discourage hunters from going to southeast Saskatchewan.

**Includes hunters from WMZ 40 to 43 and 36 to 39.

***Includes hunters in the Yorkton/Humboldt/Other category (19%).

respectively. This shift in hunting pressure, particularly by the Yorkton/Humboldt/other hunters is considered to be partially responsible for the increased harvests in the east-central zones, particularly WMZ 37 and 39.

- The Forest Fringe harvest of 2,900 deer was the highest on record since the Forest Fringe ecological zone was defined in conjunction with the new Wildlife Management Zones implemented in 1984. The largest harvests occurred in WMZ 52, 54 and 55, primarily in the Prince Albert and Meadow Lake areas (Table 8).
- The Forest harvest of 4,410 deer was higher than 1985 but slightly lower than the long-term average of 6,647 (1980-1985; Table 9). However, from 1980 to 1984, two-deer licences were offered in the Forest zones which contributed to higher harvest estimates in those years. WMZ 56, 57, 59 and 67 continue to be the preferred harvest zones.

3. Harvest Structure

(a) Hunter Questionnaire Survey

- The 1986 provincial harvest structure was estimated to be 2.38 bucks/doe/0.40 fawns, compared to the 2.36 bucks/doe/0.32 fawns reported in 1985 and 2.13 bucks/doe/0.35 fawns reported in 1984 (Table 10).
- The highest buck/doe harvest ratio was reported for the Parkland zones which represents a departure from the traditionally higher ratio of the Grassland zones. The Grassland buck/doe harvest ratio declined from 3.40 in 1985 to 2.07 bucks/doe in 1986, primarily as a result of the antlerless whitetail hunt in WMZ 2 and 6. It appears that hunters selected for bucks to a greater degree than normal in the Parkland zones. This was particularly evident in central and northwestern Saskatchewan where hunters enjoyed good hunting conditions for the entire November season and overall harvest increased. Ratios in the Farmland, Forest Fringe and Forest zones have remained relatively unchanged since 1983.

Table 8. Forest fringe either-sex white-tailed deer rifle harvest, 1986

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
48	421	593	312	74.2	312	2.73	1	0.20	1,926	6	0.7609
49	282	397	164	58.2	164	2.86	1	0.57	1,319	8	0.5506
50	533	751	360	67.5	360	2.65	1	0.35	2,259	6	0.6778
51	402	566	238	59.3	238	3.20	1	0.30	1,893	8	0.6637
52	668	942	445	66.5	445	2.35	1	0.30	2,742	6	0.9412
53	458	646	307	67.0	307	2.53	1	0.33	2,027	7	0.7314
54	792	1,117	603	76.1	603	2.12	1	0.44	3,240	5	0.5689
55	499	704	413	82.6	413	2.35	1	0.55	2,085	5	0.5560
	4,056	5,715	2,842	70.1	2,842	2.48	1	0.38	17,490	6	0.6665

Table 9. Forest either-sex white-tailed deer rifle harvest, 1986

ECOLOGICAL DIVISION: FOREST

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
56	1,344	1,937	831	61.8	836	1.56	1	0.31	7,847	9	1.6600
57	896	1,291	646	72.0	656	4.62	1	0.29	4,579	7	1.3841
58	298	429	164	55.1	164	3.50	1	0.67	1,192	7	0.5308
59	1,190	1,715	810	68.0	831	2.49	1	0.34	6,469	8	1.0900
60	415	598	212	51.0	212	2.55	1	0.09	2,061	10	0.5264
61	110	159	58	52.8	58	1.20	1	0.00	720	12	0.2369
62	220	318	111	50.4	111	4.00	1	0.25	1,096	10	0.2474
63	338	487	164	48.5	164	1.70	1	0.40	1,680	10	0.3385
64	158	228	85	53.6	85	3.00	1	0.00	561	7	0.1575
65	15	21	16	100.0	16	10.58	1	5.29	41	3	0.0063
66	228	328	132	58.1	132	0.90	1	0.60	1,056	8	0.0936
67	871	1,254	503	57.7	503	2.11	1	0.41	4,083	8	0.4707
68	654	942	407	62.3	413	2.56	1	0.78	3,006	7	0.7229
69	283	407	185	65.5	185	1.64	1	0.55	1,422	8	0.1835
70	7	11	0	0.0	0	0.00	1	0.00	42	.	0.0050
71	7	11	11	100.0	11	1.00	1	0.00	79	8	0.0044
72	18	26	5	28.8	5	0.00	1	0.00	73	14	0.0040
73	37	53	16	43.2	16	2.00	1	0.00	147	9	0.0032
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	7,090	10,213	4,355	61.4	4,398	2.30	1	0.38	36,155	8	0.2187

Table 10. Provincial white-tailed deer harvest structure, 1983-1986

Ecological Zone	1983 Harvest Ratio # Males	# Females	# Young	1984 Harvest Ratio # Males	# Females	# Young	1985 Harvest Ratio # Males	# Females	# Young	1986 Harvest Ratio # Males	# Females	# Young
GRASSLAND	2.54	1	0.34	3.44	1	0.27	3.40	1	0.21	2.07	1	0.39
FARMLAND	2.25	1	0.33	1.93	1	0.28	1.93	1	0.32	2.00	1	0.33
PARKLAND	2.54	1	0.42	2.18	1	0.36	2.01	1	0.37	3.07	1	0.48
FOREST FRINGE	----	---	----	2.00	1	0.47	2.42	1	0.26	2.40	1	0.38
FOREST	2.37	1	0.46	1.53	1	0.45	2.43	1	0.31	2.30	1	0.38
NORTHERN SHIELD	----	---	----	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00
PROVINCIAL TOTAL	2.37	1	0.34	2.13	1	0.35	2.26	1	0.32	2.38	1	0.40

*Special seasons that influence the either-sex harvest structure:

1986 - Antlerless WMZ 2 & 6 (Grassland); Antlered WMZ 37 & 38 (Parkland)
1985 - Antlerless WMZ 31 & 32 (Parkland); Antlered WMZ 37 & 38 (Parkland)
1984 - Antlerless WMZ 31 & 32 (Parkland); Antlered WMZ 37 (Parkland)
1983 - Either Sex WMZ 37 (Parkland)

- The fawn/doe harvest ratio increased in all ecological zones between 1985 and 1986. This may have been due to more fawns available to hunters after the mild 1985-86 winter than following the 1984 and 1985 drought in southwest Saskatchewan and the severe winter of 1984-85 in southeast Saskatchewan. The Grassland harvest of 0.39 fawns/doe is believed to have increased as a result of the antlerless hunt in WMZ 2 and 6 and because fawn production has been high in the increasing deer populations throughout southwestern Saskatchewan during recent years. In the Parkland zones, the ratio of 0.48 fawns/doe in 1986 is higher than previous years suggesting good production and possibly lower preseason fawn mortality.

(b) Check Stations

- The department again operated check stations at Carlyle and Estevan. In addition, a new program was implemented to obtain deer jaw samples through southeastern Saskatchewan Wildlife Federation branches in an effort to increase sample sizes for WMZ 15 to 17, 21 and 31 to 34 (Table 11; Figure 2). Overall harvest structure was estimated to be 2.23 bucks/doe/0.92 fawns in 1986 (n = 734) compared to 1.15 bucks/doe/0.49 fawns in 1985 (n = 599) and 2.19 bucks/doe/0.57 fawns in 1984 (n = 969). Discrepancies between the check station and hunter questionnaire samples exist because significant numbers of hunters report fawns as mature animals in the questionnaire survey.
- Of particular significance in 1986, is that fawn and yearling age classes comprised a comparatively larger portion of the check station sample (48% versus 18% in 1985) and that mature animals in the 2.5 to 4.5 year age classes comprised only 32% versus 45% of the sample in 1985. Hunting pressure, as expected, was directed towards the fawn and yearling age classes in direct proportion to their relative abundance in the live population. Greater abundance of animals in these young age classes following good production in 1986 and a shortage of 2.5 and 3.5 year old deer were evident. The 2.5 and 3.5 year cohorts represent the fawn and yearling crop of 1984 that is believed to have suffered high mortality during the 1984-85 winter.

Table 11. Sex and age class composition of the white-tailed deer harvest in southeast Saskatchewan based on check station samples, 1986

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                                   CROSSTAB OF SEX AND AGE BREAKDOWN BY SEASON HUNTED
                                     FROM 1986 WHITE-TAILED DEER CHECKSTATIONS

                                                  SEASON=REGULAR

                                               TABLE OF SEX BY YR_CLASS

SEX       YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |    0.5|    1.5|    2.5|    3.5|    4.5|    5.5|    6.5|    7.5|    8.5|    9.5|   99.9|  TOTAL
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
FEMALE   |     82 |     38 |     32 |     43 |     15 |     14 |     10 |     11 |      7 |      4 |      3 |    259
         |  11.17 |   5.18 |   4.36 |   5.86 |   2.04 |   1.91 |   1.36 |   1.50 |   0.95 |   0.54 |   0.41 |  35.29
         |  31.66 |  14.67 |  12.36 |  16.60 |   5.79 |   5.41 |   3.86 |   4.25 |   2.70 |   1.54 |   1.16 |
         |  50.62 |  19.90 |  37.65 |  40.57 |  30.00 |  37.84 |  50.00 |  64.71 |  58.33 |  80.00 |   6.12 |
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
MALE     |     80 |    153 |     53 |     63 |     35 |     23 |     10 |      6 |      5 |      1 |     46 |    475
         |  10.90 |  20.84 |   7.22 |   8.58 |   4.77 |   3.13 |   1.36 |   0.82 |   0.68 |   0.14 |   6.27 |  64.71
         |  16.84 |  32.21 |  11.16 |  13.26 |   7.37 |   4.84 |   2.11 |   1.26 |   1.05 |   0.21 |   9.68 |
         |  49.38 |  80.10 |  62.35 |  59.43 |  70.00 |  62.16 |  50.00 |  35.29 |  41.67 |  20.00 |  93.88 |
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
TOTAL         162      191       85      106       50       37       20       17       12        5       49      734
            22.07    26.02    11.58    14.44     6.81     5.04     2.72     2.32     1.63     0.68     6.68   100.00
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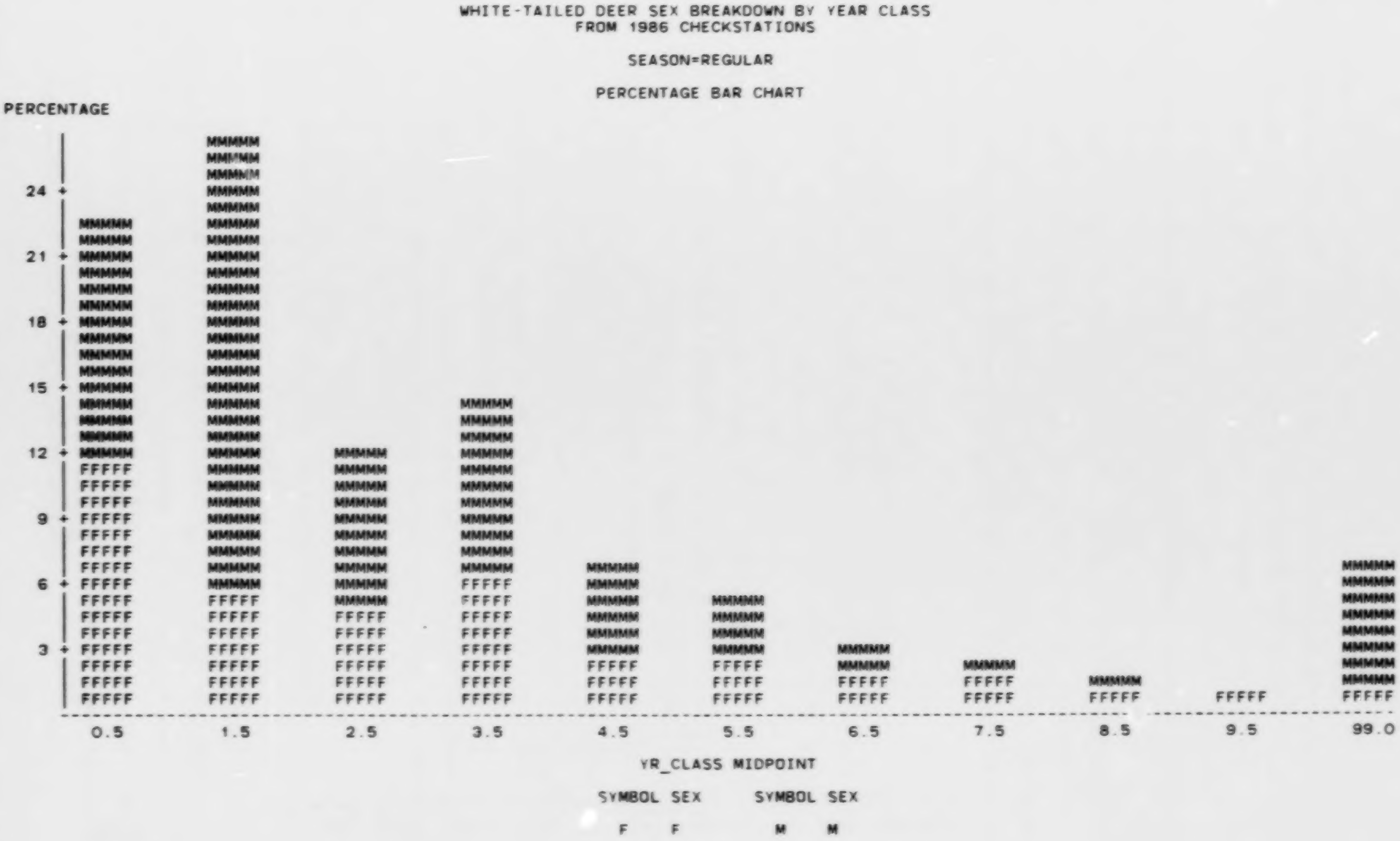
Figure 2. Sex and age composition (bar chart) of the white-tailed deer harvest in southeast Saskatchewan based on kill information and lower jaw samples provided by hunters, 1986



- It is interesting to note that the reporting rate for prime age bucks (age classes 2.5 to 6.5) in the Saskatchewan Wildlife Federation sample was higher than the department-operated check stations which have a high proportion of unknown (99.0) age classes (Figures 3 and 4). Hunters coming through department stations are often reluctant to permit attendants to cut the cheek and examine the jaw of prime age bucks. However, once the animal has been taken home, hunters seem to be prepared to extract the jaw and donate it to local Saskatchewan Wildlife Federation branches for the collection program. It is anticipated that the Saskatchewan Wildlife Federation jaw collection program will be expanded in 1987 to obtain samples from other parts of the province and provide a more accurate estimate of the buck harvest by age class.
- Field dressed fawns from the check stations weighed an average of 65.3 lbs., which is similar to the long-term average but 6% higher than 1985. A Duncan's multiple range test revealed significant differences in weight between males (68.9 lbs.) and females (61.9 lbs.) but not between fawns harvested in different zones (Table 12).

4. Archery

- Provincially, 1,253 archery hunters harvested 246 deer for a success rate of 19% compared to 1,170 hunters who harvested 167 deer for a success rate of 14% in 1985 (Tables 13 to 17).
- Archers required an average of 36 days to make a kill with 40% of the harvest occurring in the Grassland zones.
- The archery harvest structure was 1.17 bucks/doe/0.21 fawns compared to 2.12 bucks/doe/0.38 fawns in 1985.

5. Muzzleloader

- Provincially, 580 muzzleloader hunters harvested 277 deer for a success rate of 48% in 1986 compared to 509 active hunters who harvested 137 deer for a success rate of 27% in 1985 (Tables 18 to 22).
- Muzzleloaders required an average of 9 days to make a kill compared to 36 days for archers and 5 days for regular rifle deer hunters (Table 1).

Figure 3. Sex and age composition (bar chart) of the white-tailed deer harvest in southeast Saskatchewan from jaw samples collected at department operated check stations, 1986

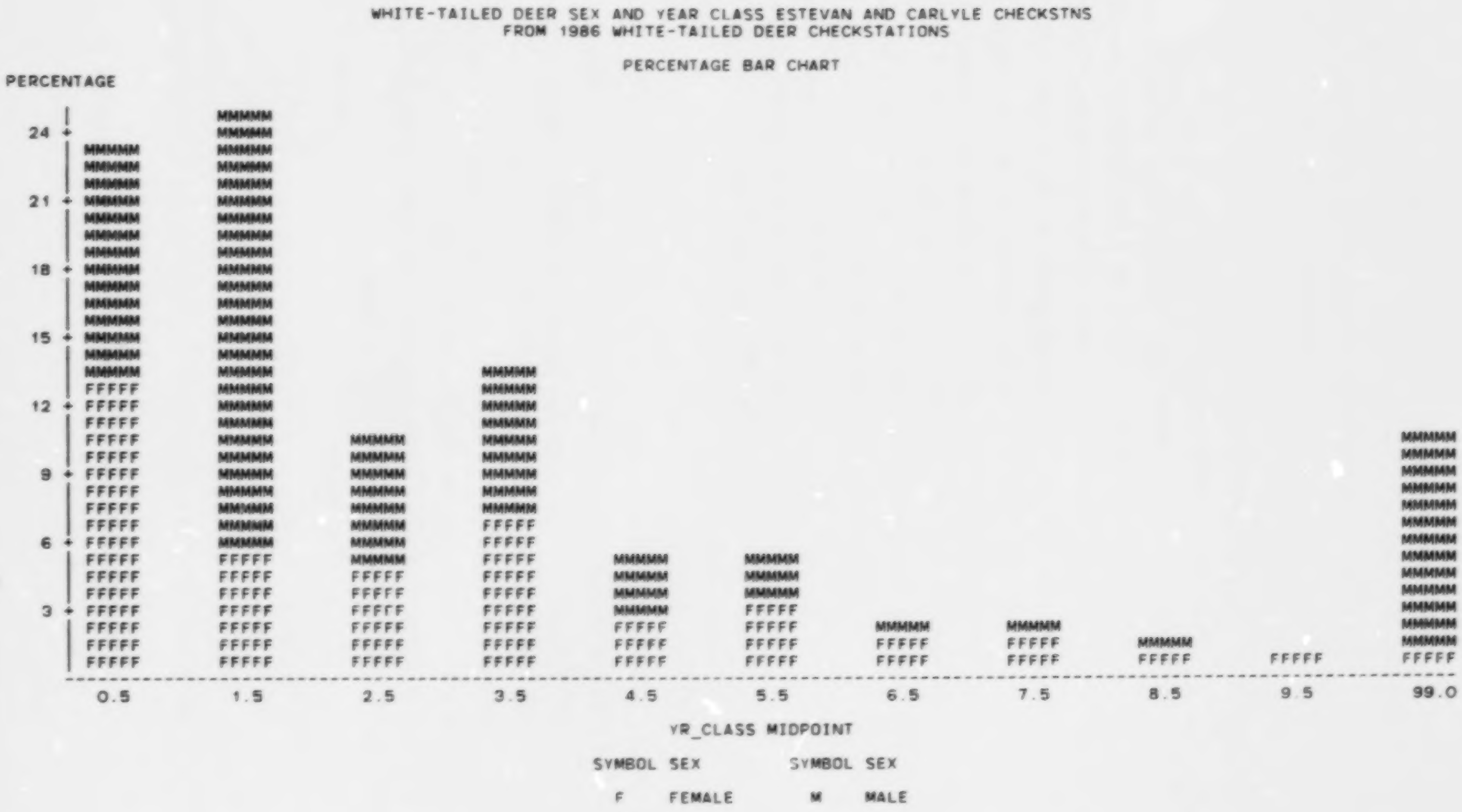


Figure 4. Sex and age composition (bar chart) of the white-tailed deer harvest in southeast Saskatchewan from jaw samples collected by the Saskatchewan Wildlife Federation, 1986

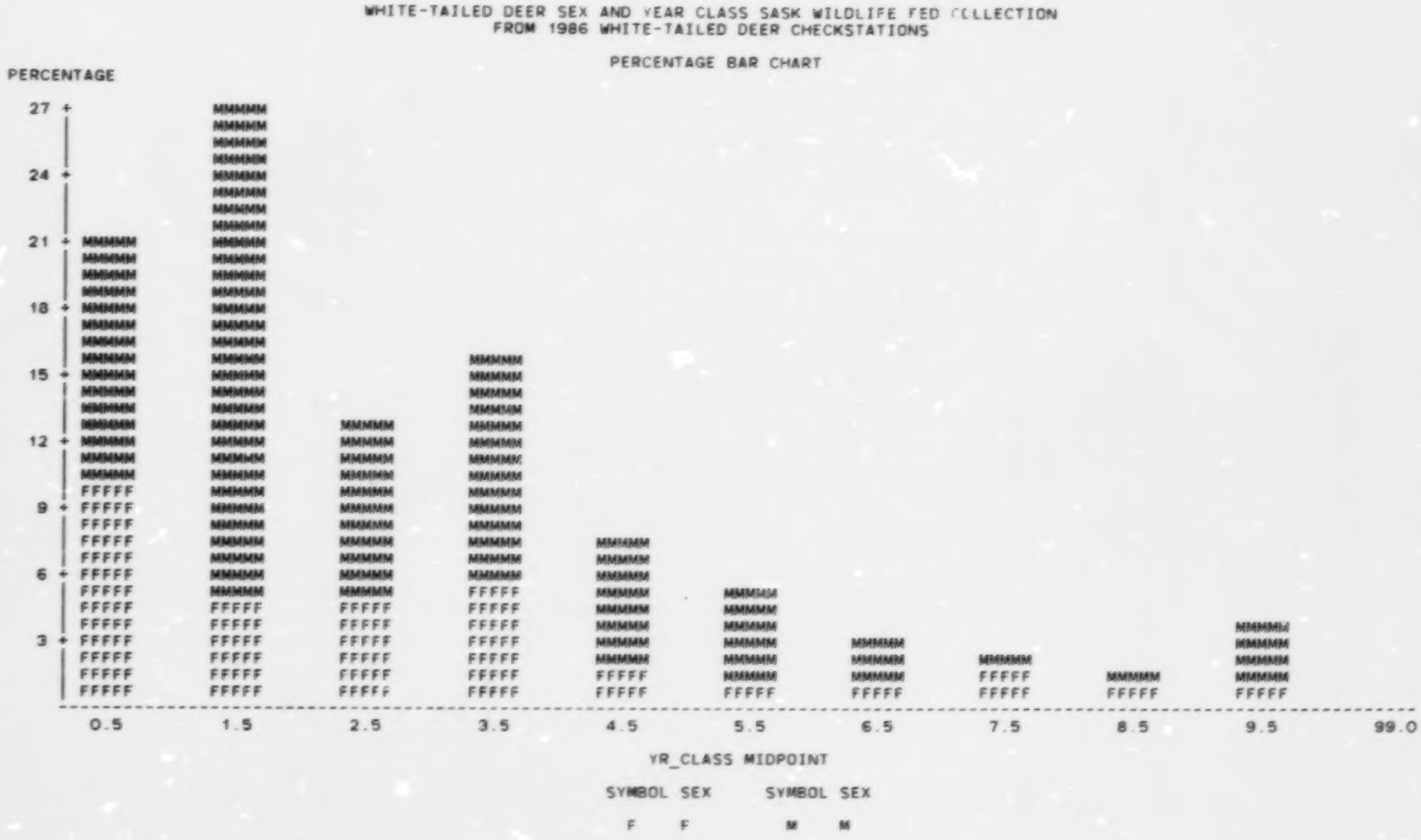


Table 12. White-tailed deer fawn weights collected at check stations in southeast Saskatchewan, 1985-86

WMZ	1985		1986**		
	N	Mean Wt. (lbs)	N	Mean Wt. (lbs)	
15	3	52.3	2 M*** 4 F	69.0 65.5	$\bar{x} = 66.7$
16	1	52.0	4 M 1 F	71.0 58.0	$\bar{x} = 68.4$
31	11	63.7	8 M 6 F	65.0 56.3	$\bar{x} = 61.3$
32	21	62.2	3 M 7 F	72.7 62.7	$\bar{x} = 65.7$
33	2	61.5	2 M 1 F	75.0 70.0	$\bar{x} = 73.3$
34	-	-	1 F	70.0	
Weighted Mean All Zones and Sexes	38	61.6	39	65.3	

* Duncan's multiple range test for variable: weight; N = sample size
** Difference between male and female weights is significant (alpha = 0.05)
***M = male; F = female

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Table 13. Grassland white-tailed deer archery harvest, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
1	18	24	3	17.1	3	3.04	1	0.00	106	35	0.0128
2	40	55	6	15.2	6	0.00	1	1.00	236	39	0.0222
3	9	12	0	0.0	0	0.00	1	0.00	44	.	0.0103
4	13	18	0	0.0	0	0.00	1	0.00	133	.	0.0163
5	24	33	0	0.0	0	0.00	1	0.00	130	.	0.0218
6	38	52	18	48.2	18	4.00	1	1.00	187	10	0.0446
7	9	12	3	34.1	3	0.00	1	0.00	52	17	0.0273
8	9	12	6	68.3	6	0.00	1	1.00	41	7	0.0121
9	31	43	15	48.8	15	0.33	1	0.33	138	9	0.0403
10	42	58	9	21.6	9	0.50	1	0.00	246	27	0.0695
11	13	18	0	0.0	0	0.00	1	0.00	85	.	0.0865
12	29	40	6	21.0	6	6.08	1	0.00	304	50	0.8841
13	62	85	0	0.0	0	0.00	1	0.00	323	.	0.0792
14	98	134	30	31.0	30	0.67	1	0.00	566	19	0.1014
	436	596	97	22.3	97	0.87	1	0.27	2,593	27	0.0400

Table 14. Farmland white-tailed deer archery harvest, 1986

ECOLOGICAL DIVISION: FARMLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
15	18	24	0	0.0	0	0.00	1	0.00	84	.	0.0124
16	27	36	6	22.5	6	1.00	1	0.00	152	25	0.0287
17	11	15	6	54.1	6	1.00	1	0.00	137	23	0.0358
18	29	40	0	0.0	0	0.00	1	0.00	152	.	0.0204
19	36	49	15	42.3	15	0.67	1	0.00	299	20	0.0324
20	92	125	21	23.1	21	2.50	1	0.00	999	47	0.1805
21	34	46	6	18.0	6	1.00	1	0.00	175	29	0.0209
22	4	6	0	0.0	0	0.00	1	0.00	46	.	0.0096
23	40	55	6	15.0	6	1.00	1	0.00	252	42	0.0440
24	20	27	3	15.0	3	0.00	1	0.00	81	27	0.0167
25	7	9	3	45.1	3	0.00	1	0.00	24	8	0.0042
26	11	15	0	0.0	0	0.00	1	0.00	30	.	0.0069
27	4	6	0	0.0	0	0.00	1	0.00	27	.	0.0056
28	4	6	0	0.0	0	0.00	1	0.00	12	.	0.0090
29	36	49	3	8.5	3	3.04	1	0.00	307	101	0.0575
30	85	116	12	14.2	12	3.00	1	0.00	894	73	0.1233
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	461	623	82	17.8	82	1.25	1	0.00	3,671	45	0.0404

Table 15. Parkland white-tailed deer archery harvest, 1986

ECOLOGICAL DIVISION: PARKLAND

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
31	29	30	12	41.5	12	0.50	1	0.50	157	13	0.0621
32	15	15	0	0.0	0	0.00	1	0.00	24	.	0.0087
34	12	12	3	25.9	3	0.00	1	3.04	97	32	0.0180
35	3	3	0	0.0	0	0.00	1	0.00	40	.	0.0151
36	12	12	3	25.9	3	3.04	1	0.00	79	26	0.0153
37	41	43	6	14.8	9	9.12	1	0.00	328	36	0.0290
38	9	9	0	0.0	0	0.00	1	0.00	55	.	0.0085
39	12	12	0	0.0	0	0.00	1	0.00	113	.	0.0148
40	9	9	0	0.0	0	0.00	1	0.00	58	.	0.0107
41	23	24	3	13.0	3	3.04	1	0.00	236	78	0.0327
42	32	33	0	0.0	0	0.00	1	0.00	252	.	0.0340
43	12	12	3	25.9	3	3.04	1	0.00	83	27	0.0126
44	9	9	3	34.6	3	3.04	1	0.00	97	32	0.0213
45	15	15	3	20.7	3	3.04	1	0.00	97	32	0.0127
46	18	18	0	0.0	0	0.00	1	0.00	158	.	0.0264
47	15	15	0	0.0	0	0.00	1	0.00	68	.	0.0120
	264	274	36	13.8	40	4.50	1	1.00	1,941	49	0.0197

Table 16. Forest Fringe white-tailed deer archery harvest, 1986

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
49	2	3	0	0.0	0	0.00	1	0.00	30	.	0.0127
50	11	15	3	27.4	3	0.00	1	0.00	65	22	0.0196
51	4	6	0	0.0	0	0.00	1	0.00	33	.	0.0117
52	7	9	6	91.5	6	0.00	1	0.00	43	7	0.0146
53	7	9	0	0.0	0	0.00	1	0.00	55	.	0.0197
54	20	27	12	61.0	12	2.00	1	1.00	165	14	0.0290
55	9	12	3	34.3	3	0.00	1	0.00	98	32	0.0262
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	60	82	24	40.7	24	0.40	1	0.20	490	20	0.0187

Table 17. Forest white-tailed deer archery harvest, 1986

ECOLOGICAL DIVISION: FOREST

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
56	2	3	0	0.0	0	0.00	1	0.00	18	.	0.0039
58	2	3	3	100.0	3	3.04	1	0.00	15	5	0.0068
59	4	6	0	0.0	0	0.00	1	0.00	93	.	0.0156
60	2	3	0	0.0	0	0.00	1	0.00	6	.	0.0016
62	2	3	0	0.0	0	0.00	1	0.00	18	.	0.0041
63	2	3	0	0.0	0	0.00	1	0.00	9	.	0.0018
64	2	3	0	0.0	0	0.00	1	0.00	2	.	0.0004
67	4	6	0	0.0	0	0.00	1	0.00	29	.	0.0033
68	8	12	0	0.0	0	0.00	1	0.00	47	.	0.0113
69	2	3	0	0.0	0	0.00	1	0.00	3	.	0.0004
70	2	3	0	0.0	0	0.00	1	0.00	9	.	0.0011
	32	49	3	9.6	3	3.04	1	0.00	249	82	0.0015

Table 18. Grassland white-tailed deer muzzleloader harvest, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1	25	34	6	25.2	6	6.21	1	0.00	100	16	0.0120
2	20	28	12	61.5	12	2.00	1	1.00	58	5	0.0054
3	2	3	0	0.0	0	0.00	1	0.00	19	.	0.0043
4	4	6	0	0.0	0	0.00	1	0.00	9	.	0.0011
5	9	12	6	69.2	6	0.00	1	1.00	31	5	0.0052
6	25	34	12	50.3	12	1.00	1	0.00	96	8	0.0228
7	4	6	6	100.0	6	0.00	1	1.00	17	3	0.0090
8	2	3	3	100.0	3	0.00	1	0.00	6	2	0.0018
9	13	19	3	23.1	3	3.11	1	0.00	34	11	0.0099
10	36	50	16	43.2	16	0.67	1	0.00	132	9	0.0373
12	2	3	3	100.0	3	0.00	1	0.00	12	4	0.0361
13	27	37	16	57.6	16	0.33	1	0.33	109	7	0.0266
14	52	71	25	48.1	25	1.33	1	0.33	183	7	0.0329
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	222	308	109	48.9	109	0.87	1	0.31	807	7	0.0125

Table 19. Farmland white-tailed deer muzzleloader harvest, 1986

ECOLOGICAL DIVISION: FARMLAND

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
15	4	6	6	100.0	6	6.21	1	0.00	9	2	0.0014
16	4	6	3	71.1	3	0.00	1	3.11	15	5	0.0028
17	2	3	0	0.0	0	0.00	1	0.00	3	.	0.0008
18	13	19	0	0.0	0	0.00	1	0.00	51	.	0.0069
19	4	6	3	71.1	3	3.11	1	0.00	34	11	0.0037
20	57	81	28	49.2	28	1.00	1	0.25	376	13	0.0679
21	9	12	3	35.6	3	3.11	1	0.00	30	10	0.0035
22	9	12	0	0.0	0	0.00	1	0.00	43	.	0.0092
23	17	25	12	71.1	12	0.00	1	0.00	68	6	0.0119
24	2	3	0	0.0	0	0.00	1	0.00	9	.	0.0019
25	7	9	6	94.8	6	1.00	1	0.00	50	8	0.0085
26	4	6	0	0.0	0	0.00	1	0.00	12	.	0.0028
27	2	3	0	0.0	0	0.00	1	0.00	16	.	0.0032
28	4	6	0	0.0	0	0.00	1	0.00	19	.	0.0138
29	7	9	3	47.4	3	3.11	1	0.00	32	10	0.0060
30	44	62	12	28.4	12	0.50	1	0.50	205	17	0.0283
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	190	270	78	40.9	78	1.00	1	0.27	973	13	0.0107

Table 20. Parkland white-tailed deer muzzleloader harvest, 1986

ECOLOGICAL DIVISION: PARKLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
31	2	3	3	100.0	3	0.00	1	0.00	3	1	0.0012
33	2	3	0	0.0	0	0.00	1	0.00	3	.	0.0008
34	2	3	0	0.0	0	0.00	1	0.00	25	.	0.0046
35	7	9	3	46.6	3	3.11	1	0.00	29	9	0.0111
36	7	9	0	0.0	0	0.00	1	0.00	43	.	0.0084
37	16	22	12	80.0	12	2.00	1	1.00	83	7	0.0073
38	7	9	0	0.0	0	0.00	1	0.00	36	.	0.0056
39	7	9	3	46.6	3	0.00	1	0.00	19	6	0.0025
40	4	6	0	0.0	0	0.00	1	0.00	14	.	0.0026
41	4	6	3	70.0	3	0.00	1	0.00	16	5	0.0022
42	4	6	0	0.0	0	0.00	1	0.00	26	.	0.0036
43	7	9	3	46.6	3	3.11	1	0.00	47	15	0.0070
44	4	6	3	70.0	3	3.11	1	0.00	34	11	0.0075
45	4	6	3	70.0	3	3.11	1	0.00	25	8	0.0032
46	11	16	6	56.0	6	1.00	1	0.00	108	17	0.0181
47	4	6	6	100.0	6	1.00	1	0.00	20	3	0.0034
	93	130	47	50.0	47	1.33	1	0.17	529	11	0.0054

Table 21. Forest Fringe white-tailed deer muzzleloader harvest, 1986

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
50	6	6	6	100.0	6	0.00	1	0.00	16	3	0.0049
51	6	6	3	51.4	3	0.00	1	3.11	22	7	0.0076
52	21	22	12	58.8	12	0.50	1	0.50	77	6	0.0265
53	6	6	0	0.0	0	0.00	1	0.00	43	.	0.0157
54	12	12	9	77.2	9	2.00	1	0.00	35	4	0.0062
55	6	6	3	51.4	3	0.00	1	3.11	22	7	0.0058
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	57	59	34	59.6	34	0.60	1	0.60	216	6	0.0082

Table 22. Forest white-tailed deer muzzleloader harvest, 1986

ECOLOGICAL DIVISION: FOREST

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
56	4	6	0	0.0	0	0.00	1	0.00	19	.	0.0039
57	2	3	3	100.0	3	3.11	1	0.00	10	3	0.0031
59	4	6	3	69.3	3	3.11	1	0.00	9	3	0.0016
63	2	3	3	100.0	3	0.00	1	0.00	10	3	0.0021
64	2	3	0	0.0	0	0.00	1	0.00	16	.	0.0044
68	2	3	0	0.0	0	0.00	1	0.00	3	.	0.0007
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	18	25	9	52.0	9	2.00	1	0.00	67	7	0.0004

- The Grassland zones received the heaviest muzzleloader harvest pressure accounting for 39% of the provincial kill. The harvest structure was 0.97 bucks/doe/0.38 fawns.

6. Antlerless Season - WMZ 2 and 6
   - In 1986, 2,325 either-sex and antlerless mule deer hunters (2,900 total licences available) were offered the opportunity to purchase an additional antlerless white-tailed deer licence in WMZ 2 and 6. This initiative was undertaken in an effort to stabilize population structure, and prevent the population from expanding beyond levels tolerable to landowners or levels that are not manageable under our present either-sex hunting regime.
   - Fifty percent of the eligible hunters (1,160) purchased the antlerless licence, harvesting 848 deer for a success rate of 73% (0.58 fawns/doe; Table 23). Hunters required only 3 days to kill an animal spending a total of 2,216 days in the field.
   - The hunt was considered to have been successful in meeting its game management objective with few problems reported by landowners. Most hunters filled their mule deer tag first or hunted in areas where it was perceived that there was equal opportunity to fill both their mule deer and antlerless white-tailed tags at the same time.

B. POPULATION STATUS

1. Density: Quadrat Aerial Surveys
   - The 1986-87 quadrat survey effort was restricted due to poor snow cover and visibility conditions throughout southern Saskatchewan. However, the completed surveys produced reliable estimates with standard error estimates not exceeding 20% for all surveys, except those designed specifically for moose inventory (Table 24).
   - Field reports and other data sources suggest that southeast Saskatchewan deer populations experienced normal production (except WMZ 33 and 34) after the mild 1985-86 winter although densities are believed to remain at an all time low. Southwest deer populations have increased in recent years and continue to expand slowly. Farmland and Parkland zones in central Saskatchewan support

Table 23. Antlerless white-tailed deer rifle harvest in WMZ 2 and 6, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST ANTLERLESS LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
2	717	717	508	70.9	510	0.00	1	0.57	1,355	3	0.1273
6	443	443	335	75.5	338	0.00	1	0.61	862	3	0.2054
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	1,160	1,160	843	72.7	848	0.00	1	0.58	2,216	3	0.1494

Table 24. White-tailed deer population estimates based on stratified random block aerial survey sampling, 1979-1987

Survey Deer/ Block	WMZ	Survey Area km^2	Survey Block Population Estimate/Year											
			1986-87		1985-86		1984-85		1983-84		1982-83		1979-82	
			± 95% CI*	Deer/ km^2	± 95% CI	Deer/ km^2	± 95% CI	Deer/ km^2	± 95% CI	Deer/ km^2	± 95% CI	Deer/ km^2	± 95% CI	km^2
Sask. River	13 & 14	4994					2494±19%	0.5±0.1	---	---	---	---	---	---
Last Mtn. Lake	21	379	---	---	---	---	559±32%	1.5±0.5	---	---	---	---	---	---
Dundurn	21 & 30	1480	---	---	---	---	1175±16%	0.8±0.1	---	---	---	---	---	---
Souris	31 & 32	3149	---	---	---	---	4051±19%	1.3±0.2	---	---	---	---	---	---
Alida	32	1492	---	---	1874±11%	1.3±0.1	2892±24%	1.9±0.5	---	---	5495±16%	3.7	---	---
Moose Mtn.**	33	681	1540±23%	2.3±0.5	1122±15%	1.6±0.2	1118±33%	1.6±0.5	1303±16%	1.9	1670±18%	2.5	1691±18%	2.5
Parkman	34	1865	---	---	1729±14%	0.9±0.1	2107±18%	1.1±0.2	---	---	2462±54%	1.4	---	---
Moosomin	34	932	---	---	648±14%	0.7±0.1	974±29%	1.0±0.3	---	---	1432±8%	1.6	---	---
Melville	37	5885	---	---	---	---	1988±10%	0.4±0.03	---	---	---	---	---	---
Wroxton	37	1176	699±14%	0.6±0.08	985±19%	0.8±0.2	1413±21%	1.2±0.3	---	---	483±10%	0.4	---	---
Parkerview	39	1678	---	---	1388±17%	0.8±0.1	2227±14%	1.3±0.2	---	---	2470±14%	1.5	---	---
Pleasantdale	41 & 42	2949	---	---	1094±21%	0.4±0.1	963±12%	0.3±0.3	---	---	---	---	1106±10%	0.4
Manitou	46	2129	2072±20%	1.0±0.2	---	---	2392±17%	1.1±0.02	---	---	2325±17%	1.1	---	---
Bronson Forest**	68	3186	3130±22%	1.0±0.2	---	---	---	---	---	---	---	---	---	---
Kipling	33	1494	---	---	---	---	---	---	---	---	513±18%	0.4	---	---
Duck Mountain**	37	479	337±28%	0.7±0.2	---	---	---	---	---	---	382±24%	0.8	---	---
Thickwood Hills	54	1492	---	---	---	---	---	---	---	---	1093±24%	0.7	---	---
Marie Hill	46	1119	---	---	---	---	---	---	---	---	808±16%	0.7	---	---
Yorkton	39	3107	---	---	---	---	---	---	---	---	---	---	2792±14%	0.9
Forest Fringe	50,51,62, 63,64	4311	---	---	---	---	---	---	562±63%	0.13	---	---	---	---
Cumberland South**	60		809±29%	0.4±0.1	---	---	---	---	---	---	---	---	---	---
Porcupine Forest**	56,57		5021±16%	1.4±0.2	---	---	---	---	---	---	---	---	---	---
Val Marie	2	1119	504±14%	0.5±0.07	---	---	---	---	---	---	---	---	---	---
Eastend	6	1370	989±20%	0.7±0.1	827±18%	0.9±0.1	---	---	---	---	---	---	---	---
Sask. River (Leader)	11 & 14	855	589±21%	0.7±0.1	---	---	---	---	---	---	---	---	---	---

* Confidence intervals on the population estimate
** Quadrat surveys designed primarily for moose census.

relatively good populations with slow expansion in the northwest zones but declining populations in the eastern and central zones. The Forest Fringe and Forest zone deer populations have been expanding since 1984-85 and currently support above average densities except in the central Commercial Forest zones.

- Surveys in southwestern Saskatchewan indicated a slight increase in the Eastend (WMZ 6) area (0.6 to 0.7 deer/km^2; 1985 vs 1986), identified a density of 0.7 deer/km^2 in WMZ 11 and 14 along the south Saskatchewan River west of Leader, and indicated the deer density in the Val Marie area (WMZ 2) to be 0.5 deer/km^2 (Table 24). In WMZ 37, the Wroxton survey indicated a statistically significant decline from 1.2 deer/km^2 in 1984-85 to 0.6 deer/km^2 in 1986-87, with a slight but not significant change from the 0.8 deer/km^2 observed in 1985-86. In WMZ 46, the Manitou survey indicated a slight but not statistically significant decline from 1.1 deer/km^2 in 1984-85 to 1.0 deer/km^2 in 1986-87.
- In conjunction with moose surveys, deer were incidentally surveyed in Moose Mountain Provincial Park (WMZ 33), Bronson Forest (WMZ 68), Duck Mountain Provincial Park (WMZ 37), Cumberland South (WMZ 60) and Porcupine Forest (WMZ 56 and 57). Density estimates of 2.3, 1.0, 0.7, 0.4 and 1.4 deer/km^2 respectively were generated from this data. These estimates are subject to a high degree of error and with the exception of the Porcupine Forest survey, have confidence intervals wider than ± 20%. However, the figures are consistent with the department's impressions that deer populations are low but slowly increasing in southeast Saskatchewan, declining in east central Saskatchewan, and above normal throughout some forest zones.

2. Population Structure: Cooperative Wildlife Observations

- In 1986, 29,040 deer were classified by sex and age compared to 13,320 in 1985, 18,159 in 1984 and 13,532 in 1983 when the program was first implemented province-wide. Sample sizes increased in all ecological zones, particularly the Parkland zones (Table 25).

Table 25. Provincial white-tailed deer population structure based on pre-season field observations, Sept. - Nov. 1986

Ecological Zone	Males* / 100 Females				Fawns / 100 Females				Sample Sizes (n)			
	1983	1984	1985	1986	1983	1984	1985	1986	1983	1984	1985	1986
GRASSLAND	38	42	33	33	107	94	78	88	1,858	2,865	2,336	5,134
FARMLAND	42	39	35	33	107	94	87	91	2,868	5,525	3,412	6,072
PARKLAND	42	35	45	44	95	104	82	86	6,419	6,492	5,322	11,815
FRINGE	53	40	44	42	91	99	83	88	1,146	1,329	963	2,419
FOREST	51	39	46	45	82	85	69	80	1,241	1,948	1,287	3,600
ALL ZONES	45	38	40	40	99	97	81	87	13,532	18,159	13,320	29,040

*Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

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- Preseason productivity estimates in all ecological zones, ranging from 80 to 91 fawns/100 does, increased in relation to 1985 but continue to be slightly lower than either the 1983 or 1984 ratios of 99 and 97 fawns/100 does, respectively (Table 25). The percentage of does observed with twins increased and the percentage of does observed without fawns declined in 1986 (Table 26). This relationship may reflect increased production resulting from an improvement in the nutritional status of does following the mild 1985-86 winter.
- On a provincial basis, the ratio of 40 bucks/100 does remains relatively unchanged from previous years although the Parkland, Forest Fringe and Forest zones tend to have higher buck/doe ratios than the other two ecological regions.
- In the Grassland zones fawn/doe ratios fluctuate considerably but sample sizes with the exception of WMZ 1, 2, 4 and 6 are small (Table 27).
- In the Farmland zones, WMZ 15, 21 and 23 showed ratios of 108, 100 and 102 fawns/100 does respectively, while WMZ 19 and 4 (74 and 71 fawns/100 does) showed ratios well below normal despite large sample sizes (> 500 observations; Table 28). Production in WMZ 16, 17 and 18 appears to be increasing but sample sizes remain too small for valid statistical analysis.
- The Parkland zones (WMZ 31, 32 and 39) are producing deer at expected levels with 102, 94 and 112 fawns/100 does, respectively (n > 500; Table 29). However, there is still cause for concern in WMZ 33, 34, 35, 37, 42 and 45 where estimates of 73, 81, 83, 85, 68 and 80 fawns/100 does (n > 500) suggest low productivity. These low ratios may reflect a low occurrence of prime age breeding females in the population since check station data from 1985 indicated a shortage of fawn and yearling age-class animals. It is believed that this is a result of high mortality during the 1984-85 winter which has a continuing residual effect on local deer populations. This is reflected in densities of surviving females, now 2.5 and 3.5 years old, respectively, which may be low enough to impact total productivity of the population.

Table 26. Percentage of whitetail does with and without fawns based on pre-season field observations

Ecological Zone	% Does With And Without Fawns													
	1983			1984			1985				1986			
	Single	Twins	Triplets	Single	Twins	Triplets	Single	Twins	Triplets	Without Fawns	Single	Twins	Triplets	Without Fawns
GRASSLAND	53	40	6	44	49	8	56	40	4	47	56	39	5	40
FARMLAND	49	47	4	59	38	3	59	37	4	40	55	40	5	39
PARKLAND	58	38	4	53	43	3	59	39	2	43	55	41	3	42
FRINGE	58	38	4	50	45	5	57	42	1	43	52	46	3	42
FOREST	49	49	2	62	35	2	57	42	0	51	52	46	2	47
ALL ZONES	54	42	4	56	40	3	58	39	3	44	55	42	4	42

Table 27. Grassland white-tailed deer population structure based on pre-season field observations, Sept. - Nov. 1986

WMZ	Males* 100 Females 1983**	Males* 100 Females 1984	Males* 100 Females 1985	Males* 100 Females 1986	Fawns 100 Females 1983	Fawns 100 Females 1984	Fawns 100 Females 1985	Fawns 100 Females 1986	Sample Size (n) 1983	Sample Size (n) 1984	Sample Size (n) 1985	Sample Size (n) 1986
1	34	52	30	29	113	107	67	88	540	491	279	959
2	44	60	34	33	143	98	101	97	374	462	325	596
3	60	50	0	27	100	200	133	164	13	7	7	32
4	36	28	27	24	86	63	61	71	262	418	543	896
5	44	40	36	28	56	84	81	90	17	227	155	343
6	29	55	57	42	103	89	90	91	143	288	239	621
7	38	42	27	37	104	99	81	95	63	204	172	482
8	35	56	36	41	117	122	83	87	58	24	79	89
9	54	17	12	23	56	63	53	64	101	43	80	105
10	47	36	47	66	100	116	86	127	47	111	100	240
11	33	45	8	18	127	98	115	129	125	124	29	42
12	--	--	27	27	--	--	109	109	--	--	26	25
13	34	28	50	39	84	129	85	83	109	267	141	402
14	300	24	40	43	100	95	97	94	5	199	161	301
TOTAL	38	42	33	33	107	94	78	88	1858	2865	2336	5134

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

** The 1983 numerical values have been changed to correspond with the new WMZ's that were implemented in 1984.

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Table 28. Farmland white-tailed deer population structure based on pre-season field observations, Sept. - Nov. 1986

	Males#				Fawns				Sample Size (n)			
	100 Females				100 Females							
WMZ	1983##	1984	1985	1986	1983	1984	1985	1986	1983	1984	1985	1986
15	33	28	25	26	121	116	104	108	741	400	729	1012
16	31	23	35	40	131	118	85	95	360	319	186	363
17	38	49	31	35	113	81	79	87	366	303	199	337
18	61	63	28	31	96	148	51	77	118	84	70	108
19	55	49	48	37	102	68	70	74	217	627	317	574
20	--	37	66	60	--	73	74	86	--	496	248	379
21	--	44	35	33	--	105	99	100	--	1390	361	833
22	55	46	2	43	74	156	0	57	278	178	3	14
23	30	35	27	27	95	93	92	102	385	1127	970	1522
24	0	35	62	44	67	59	54	88	10	33	28	132
25	0	30	33	29	88	90	83	71	15	22	12	48
26	33	32	21	17	200	100	89	87	10	50	39	61
27	100	31	25	23	122	95	42	38	100	96	19	85
28	93	63	53	57	129	32	94	139	46	40	42	68
29	81	60	40	32	89	89	59	36	73	216	125	225
30	43	10	69	46	90	73	77	78	114	144	64	311
TOTAL	42	39	35	33	107	94	87	91	2868	5525	3412	6072

Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

The 1983 numerical values have been changed to correspond with the new WMZ's that were implemented in 1984.

Table 29. Parkland white-tailed deer population structure based on pre-season field observations, Sept. - Nov. 1986

WMZ	Males* 100 Females 1983**	Males* 100 Females 1984	Males* 100 Females 1985	Males* 100 Females 1986	Fawns 100 Females 1983	Fawns 100 Females 1984	Fawns 100 Females 1985	Fawns 100 Females 1986	Sample Size (n) 1983	Sample Size (n) 1984	Sample Size (n) 1985	Sample Size (n) 1986
31	25	35	24	30	96	110	98	102	421	325	438	946
32	37	21	37	43	97	114	96	94	1875	655	388	673
33	35	28	34	32	99	86	71	73	516	354	343	759
34	41	47	42	44	84	106	72	81	623	1054	832	1559
35	56	13	66	52	99	118	73	83	393	370	378	978
36	42	20	34	36	53	75	66	59	86	116	57	119
37	50	32	42	38	93	102	81	85	898	1144	1112	2317
38	55	69	58	61	115	113	54	68	237	192	125	327
39	54	31	57	57	96	135	92	112	430	375	440	1251
40	35	39	71	69	81	74	97	94	121	383	166	268
41	44	43	50	41	88	120	100	104	157	333	77	309
42	44	28	66	50	85	70	63	68	151	316	206	524
43	58	34	49	46	109	95	92	83	146	172	123	160
44	59	25	67	32	117	81	17	64	79	65	12	145
45	65	42	46	53	108	133	83	80	210	291	379	804
46	100	84	74	51	100	99	70	65	6	243	66	242
47	57	31	40	40	112	119	92	86	70	104	180	434
TOTAL	42	35	45	44	95	104	82	86	6419	6492	5322	11815

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

** The 1983 numerical values have been changed to correspond with the new WMZ's that were implemented in 1984.

- Sample sizes in the Forest Fringe and Forest zones, with the exception of WMZ 56, do not exceed 500 observations (Table 30 and 31). In WMZ 56, ratios of 85 fawns/100 does and 40 bucks/100 does are consistent with previous years.
- It is interesting to note that the percentage of yearlings (antler classes A, B and C) in the buck segment of the provincial population has fluctuated between 48%, 38% and 41% in 1984, 1985 and 1986 respectively (Table 32). Although this general trend is present in all ecological zones, the 1985 decline in yearlings following the severe 1984-85 winter was most pronounced in the Farmland, Parkland and Forest Fringe zones. The phenomenon of fewer yearling bucks in 1986 may also be reflective of poor production following the extreme winter of 1984-85 since fawns born from does in poor physical condition after the 1984-85 winter were generally less likely to survive to become yearlings in fall 1986 than in a typical year.

3. Impact of the 1986-87 winter

- Compared to the 1984-85 severe winter, this past winter was one of the mildest on record throughout the entire province. Temperature, wind chill and snow depth records indicate that the 1986-87 winter was significantly milder than 1985-86. This was particularly apparent in southern Saskatchewan where snow cover was minimal even in February and except for a few cold weeks in January, temperatures remained in the -5 to -10° C range.
- Necropsy of road-killed deer throughout the winter from all parts of the province showed rates of body and femur fat depletion which were indicative of good physical condition for deer of all age classes. Winter mortality is believed to have been minimal as a consequence of the excellent weather conditions.
- With continued mild spring weather and vegetation green-up earlier than normal, production and post-partum fawn survival may be above average in 1987.

Table 30. Forest white-tailed deer population structure based on pre-season field observations, Sept. - Nov. 1986

WMZ	Males* 100 Females 1983**	1984	1985	1986	Fawns 100 Females 1983	1984	1985	1986	Sample Size (n) 1983	1984	1985	1986
56	56	27	35	40	82	95	82	85	262	510	259	728
57	50	53	60	49	85	74	73	74	342	217	191	495
58	41	32	42	42	119	117	58	79	96	132	62	162
59	62	49	35	57	104	79	89	78	124	130	121	235
60	18	60	37	42	105	57	47	59	50	92	103	224
61	55	60	57	33	76	100	43	73	66	26	14	31
62	50	0	65	53	17	100	41	88	10	6	35	123
63	145	33	64	55	118	102	67	96	40	216	130	369
64	46	33	64	44	23	46	89	79	44	113	71	192
65	0	0	0	42	0	100	0	125	1	8	1	32
66	38	19	53	48	104	53	47	60	63	99	132	306
67	43	68	33	37	114	100	64	76	36	212	69	226
68	29	54	70	38	132	86	140	90	73	88	31	180
69	150	39	35	44	100	94	87	105	14	75	51	247
70	0	0	0	--	0	50	0	--	1	3	1	--
71	--	--	13	11	--	--	38	33	--	--	12	13
72	0	0	0	0	0	200	0	25	2	3	1	10
73	150	0	2	--	100	150	1	--	7	10	3	--
TOTAL	51	39	46	45	92	85	69	80	1241	1948	1287	3600

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

** The 1983 numerical values have been changed to correspond with the new WMZ's that were implemented in 1984.

Table 31. Forest Fringe white-tailed deer population structure based on pre-season field observations, Sept. - Nov. 1986

WMZ	Males* / 100 Females 1983**	1984	1985	1986	Fawns / 100 Females 1983	1984	1985	1986	Sample Size (n) 1983	1984	1985	1986
48	55	28	50	53	56	64	110	116	190	102	156	261
49	53	35	70	44	73	121	91	92	67	174	59	446
50	65	41	60	53	81	97	81	79	63	167	169	332
51	63	32	38	32	123	77	85	79	98	46	87	118
52	32	23	50	35	45	51	75	71	39	99	54	99
53	60	58	29	40	99	96	70	66	176	227	188	330
54	72	44	36	41	100	131	67	90	171	425	164	470
55	38	40	47	33	109	71	109	103	342	89	86	363
TOTAL	53	40	44	42	91	99	83	88	1146	1329	963	2419

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

** The 1983 numerical values have been changed to correspond with the new WMZ's that were implemented in 1984.

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Table 32. Percent breakdown of yearling* and mature males** in the provincial white-tailed deer population based on pre-season field observations 1984-1986

Ecological Zone	1984 % Yearlings	1984 % Mature	1984 Sample Size (n)	1985 % Yearlings	1985 % Mature	1985 Sample Size (n)	1986 % Yearlings	1986 % Mature	1986 Sample Size (n)
Grassland	53	47	500	46	54	364	49	51	811
Farmland	50	50	928	38	62	527	41	59	887
Parkland	45	55	941	33	67	1054	37	63	2250
Fringe	49	51	218	34	66	188	33	67	435
Forest	47	53	332	44	56	270	45	55	700
All Zones	48	52	2919	38	62	2403	41	59	5083

* Antler classes A, B and C
** Antler classes D, E and F

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4. Management Problems

(a) Despite good production anticipated for 1987, low populations in southeast Saskatchewan (WMZ 16, 17, 31 to 35) continue to be a major concern. The severe 1984-85 winter is believed to be continuing to exert a residual depressive influence on populations. The effect arises from proportions of the 2.5 and 3.5 year age cohorts (expected to produce the most fawns) which are below normal. These zones traditionally had the highest deer densities and harvest in the province but harvest pressure has shifted to southwest and central Parkland zones as a result of better deer populations and fewer hunting restrictions. WMZ 32 and 34 continue to experience loss of critical deer habitat and may not be able to sustain high densities of deer in the future. Severe winters may play an amplified role in limiting population growth as a result of this habitat loss.

(b) In WMZ 37, 38 and 39, severe winter mortality in 1984-85 was responsible for a significant population reduction. The large amount of under-utilized deer habitat in these zones and good production in 1986 was predicted to improve the situation dramatically. However, it appears that this has not occurred and deer populations, particularly in WMZ 37, remain below average. With the unusually heavy 1986 harvest in both WMZ 37 and 39 by local hunters who traditionally hunt in southeast Saskatchewan, it will be necessary to maintain hunting restrictions for 1987 in an effort to promote population growth. Computer modelling of the WMZ 37 and 39 populations under either-sex, bucks-only and combined harvest strategies suggests that a one week bucks only and one week either-sex season would promote optimum hunting recreation opportunity and allow moderate population expansion (Table 33). This harvest strategy currently exists in WMZ 37 and will be expanded to include WMZ 39. Record harvests in both zones in 1986 suggest that local sport hunters are receptive to crossing zone boundaries to harvest a deer.

Table 33. Predicted growth of white-tailed deer populations in WMZ 37 and 39 under different harvest strategies using computer modelling

1. WMZ 37

	Population Sizes During Bio-Year					
Bio-Year	Start	Pre-Harvest	Post Harvest	End	% Growth	% Sport Harvest
1984	12000	11371	10440	5525	-31.1	7.45
1985	8265	7925	7337	5886	15.2	6.76
1986	9525	9046	7277	6126	10.3	17.84
1987	10508	9911	8376	6188	0.5	14.13
1988	10565	9976	8441	6230	2.0	14.03
1989	10774	10167	8639	6346	2.1	13.77
1990	11005	10383	8854	6499	2.4	13.48
1991	11271	10634	9103	6699	3.4	13.17
1992	11659	10998	9463	7024	6.2	12.73

2. WMZ 39

	Population Sizes During Bio-Year					
Bio-Year	Start	Pre-Harvest	Post Harvest	End	% Growth	% Sport Harvest
1984	7000	6633	5686	3709	-13.9	13.1
1985	6027	5722	5190	4310	14.1	8.5
1986	6874	6516	5070	4466	3.6	20.3
1987	7120	6737	5765	4736	4.7	13.2
1988	7458	7074	6102	5047	5.9	12.6
1989	7900	7497	6525	5407	5.9	11.9
1990	8367	7947	6975	5814	6.5	11.2
1991	8909	8468	7496	6280	7.3	10.5
1992	9562	9095	8123	6847	8.4	9.8

(c) Field reports from WMZ 21 show that since 1984-85, local deer population and harvest rates have declined. The Cooperative Wildlife Management program indicates good production at 100 fawns/100 does but no aerial survey data is available to estimate population size. Although computer modelling of the WMZ 21 population suggests that a bucks-only strategy (Table 34) would be the most effective method of increasing populations, the department wishes to assess the other factors impeding population growth before the local harvest strategy is modified.

C. 1987 MANAGEMENT OBJECTIVES

(1) Low populations in southeastern Saskatchewan warrant continuation of the two week either-sex season and restrictions on Canadian residents in WMZ 16, 17, 31 to 34 and 37 to 39. WMZ 35 which incurred heavy Canadian resident hunting activity in 1986 because of its close proximity to the Manitoba border will be included in the Canadian resident restriction for 1987.

(2) The one week bucks only and one week either-sex harvest strategy in WMZ 37 will be expanded to WMZ 39 in order to protect breeding females and promote population growth. The bucks only strategy will be maintained in WMZ 38.

(3) The other Parkland, Farmland and Grassland zones will continue to have a two week either-sex rifle season in 1987.

(4) Deer populations in the northwest and northeast Forest zones (WMZ 56 to 61 and 66 to 69) have improved dramatically and warrant a two deer bag limit. With the exception of WMZ 67 and 68 (late season only), these Forest zones will maintain their early and late season dates. A one deer bag limit will be maintained in central Forest zones (WMZ 62 to 65 and 70 to 76) with a late season only.

Table 34. Predicted growth of white-tailed deer populations in WMZ 21 under different harvest strategies using computer modelling

WMZ 21 - Present Either-Sex Harvest 1987-92

	Population Sizes During Bio-Year					
Bio-Year	Start	Pre-Harvest	Post Harvest	End	% Growth	% Sport Harvest
1984	5785	5482	4204	2700	-23.0	21.31
1985	4452	4221	3135	2780	1.3	23.53
1986	4510	4260	3606	3197	12.1	13.99
1987	5053	4784	3799	3142	0.1	18.81
1988	5059	4790	3805	3141	1.2	18.79
1989	5118	4842	3857	3178	1.5	18.59
1990	5196	4914	3929	3242	2.4	18.32
1991	5320	5030	4045	3345	3.5	17.89
1992	5508	5207	4222	3502	4.8	17.28

WMZ 21 - Bucks Only Harvest 1987-92

	Population Sizes During Bio-Year					
Bio-Year	Start	Pre-Harvest	Post Harvest	End	% Growth	% Sport Harvest
1984	5785	5482	4204	2700	-23.0	21.31
1985	4452	4221	3135	2780	1.3	23.53
1986	4510	4260	3606	3197	12.1	13.99
1987	5053	4784	4234	3516	13.8	10.45
1988	5751	5444	4894	4053	17.3	9.18
1989	6743	6376	5826	4818	18.4	7.84
1990	7983	7549	6999	5810	19.6	6.62
1991	9552	9037	8487	7080	20.8	5.53
1992	11537	10923	10373	8705	21.6	4.58

(5) The special antlerless season introduced for WMZ 2 and 6 in 1986, will continue in 1987 with some slight modifications in WMZ 2. The special licence will be available only to antlerless mule deer hunters (200) east of Highway No. 4 in WMZ 2. White-tailed deer populations remain high in the Glentworth, Kincaid and Wood Mountain areas and heavier hunting pressure is warranted on the antlerless segment of these populations. In WMZ 6, populations continue to increase and an antlerless white-tailed deer licence will again be offered to the 500 either-sex and antlerless mule deer hunters.

(6) Primitive weapons hunting will be expanded in 1987 to include a two deer bag limit for Saskatchewan residents in WMZ 56 to 61 and 66 to 69. Hunters will also have the option to purchase an antlerless tag for that portion of Zones 11 and 14 along the South Saskatchewan River from Leader to the Alberta border in order to reduce high white-tailed deer numbers associated with the irrigated alfalfa fields. During this season hunters will be restricted to the primitive weapons season dates and the respective weapon types.

In 1987 Canadian residents and non-residents of Canada will be offered the opportunity to participate in the archery season in WMZ 56 to 76 (1 deer bag limit). The season is being held in response to growing populations and interest by both archers and local outfitters.

(7) A significant change in licencing for 1987 will be a one licence system valid in either the archery, muzzleloader, or rifle season, provided the hunter adheres to weapon and dress restrictions. Unsuccessful archers and muzzleloaders will now be able to use their unfilled either-sex white-tailed deer licence in the November season and the shotgun - archery - muzzleloader areas of WMZ 20 and 30. Rifle hunters who traditionally hunt in the November season will now have the additional opportunity of hunting in the archery and muzzleloader seasons provided they use the designated primitive weapon. Once the licence is filled it is no longer valid. Second white-tailed deer licences can be used in the same fashion but are valid only in those zones offering a two deer either-sex bag limit.

The antlerless licence offered in WMZ 6, 11 and 14 is still considered a special tag and will have to be purchased separately.

It is anticipated that the single licence system for all season types will promote additional hunting opportunity for all user groups without significantly increasing the overall sport harvest.

D. 1987 WHITE-TAILED DEER SEASON

White-tailed Deer Primitive Weapons (Sask. Residents Only)	Zones 1 to 8, 11 to 55, including Elbow, Fort a la Corne, Great Bend and Horsehide Lake Wildlife Management Units; Duck Mountain, Moose Mountain and Saskatchewan Landing Prov. Parks	Archery Sept. 7 - Oct. 17 Muzzleloading Rifles Oct. 5 - Oct. 17	one white-tailed deer, either sex	– An unsuccessful archer or muzzleloader hunter may use his unfilled either sex white-tailed deer licence in all white-tailed deer rifle seasons and the Shotgun-Archery-Muzzleloader areas of Zones 20 and 30. – Archery and muzzleloader hunters have the option to purchase an antlerless white-tailed deer licence in addition to their either-sex licence, valid only in the specified portion of Zones 11 and 14 during the archery and muzzleloader seasons. See map on page 12 for details. – Second white-tailed deer either-sex licences are valid only in Zones 56 to 61 and 66 to 69. A separate licence is required. **Note: The opening date in Duck Mountain, Greenwater, Meadow Lake and Saskatchewan Landing Provincial Parks and Bronson Forest Recreation Site is delayed until Sept. 9.**
	Zones 9 and 10	Archery Sept. 21 - Oct. 3 Muzzleloading Rifles Oct. 5 - Oct. 17	one white-tailed deer, either sex	
	That portion of Zones 11 and 14 along the South Saskatchewan River from Highway No. 21 to the Alberta border	Archery Sept. 7 - Oct. 17 Muzzleloading Rifles Oct. 5 - Oct. 17	one antlerless white-tailed deer	
	Zones 56 to 61 and 66 to 69, including Leaf Lake Wildlife Management Unit; Greenwater and Meadow Lake Provincial Parks; and Bronson Forest Recreation Site	Archery Sept. 7 - Oct. 17 Muzzleloading Rifles Sept. 21 - Oct. 17	two white-tailed deer, either sex	
	Zones 62 to 65, and 70 to 76 including Clearwater River, Lac La Ronge and Nipawin Provincial Parks	Archery Sept. 7 - Oct. 17 Muzzleloading Rifles Sept. 21 - Oct. 17	one white-tailed deer, either sex	
White-tailed Deer Archery (Canadian Residents and Non-residents)	Zones 56 to 76, including Leaf Lake Wildlife Management Unit, Clearwater River, Greenwater, Lac La Ronge, Meadow Lake and Nipawin Provincial Parks; and Bronson Forest Recreation Site	Sept. 7 - Oct. 17	one white-tailed deer, either sex	– An unsuccessful archer may use his unfilled either sex white-tailed deer licence in all white-tailed deer seasons open to Canadian Residents and Non-residents.
White-tailed Deer (Sask. Residents, Canadian Residents and Non-residents)	Zones 56 to 61, 66 and 69, including Leaf Lake Wildlife Management Unit; and Greenwater and Meadow Lake Prov. Parks	Oct. 5 - Oct. 17 and Nov. 9 - Nov. 28	two white-tailed deer, either sex	– Second white-tailed deer licences are valid only in Zones 56 to 61 and 66 to 69. A separate licence is required.
	Zones 67 and 68, including Bronson Forest Recreation Site	Nov. 9 - Nov. 28	two white-tailed deer, either sex	
	Zones 62 to 65, including Nipawin Provincial Park	Nov. 9 - Nov. 28	one white-tailed deer, either sex	
	Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Nov. 2 - Nov. 28	one white-tailed deer, either sex	
White-tailed Deer (Sask. Residents and Canadian Residents)	Zones 1 to 15, 18 to 30, 36 and 40 to 55, including Brokenshell No. 1 and No. 2, Cookson, Estevan-Cambria, Elbow, Fort a la Corne, Horsehide Lake, Last Mountain Lake and Lomond No. 3 (at Maxim) Wildlife Management Units; and Saskatchewan Landing Provincial Park	Sask. Residents Nov. 16 - Nov. 28 Canadian Residents Nov. 23 - Nov. 28	one white-tailed deer, either sex	**Note: Primitive weapons only in Saskatchewan Landing Provincial Park.** – **Portions of Zones 20 and 30 are restricted to shotgun, archery, and muzzleloading rifle hunting only. Please refer to Wildlife Management Zone maps.** – **Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit.** – **"Roads and Trails Only". Hunters in Zones 15 to 17, 20 and 30 to 34 must keep vehicles on roads and road allowances with trails.** – "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres in length as measured from the outside of the skull to the tip. – Hunters may purchase an antlerless white-tailed deer licence at department offices upon proof of possession of a mule deer licence for Zone 6 or an antlerless mule deer licence for Zone 2. – "Antlerless White-tailed Deer" means a doe or 1987 fawn.
	Zones 16, 17 and 31 to 35, including Moose Mountain Provincial Park	Sask. Residents Nov. 16 - Nov. 28	one white-tailed deer, either sex	
	Zone 38	Sask. Residents Nov. 16 - Nov. 28	one antlered white-tailed deer	
	Zones 37 and 39, including Duck Mountain Provincial Park	Sask. Residents Nov. 16 - Nov. 21	one antlered white-tailed deer	
		Sask. Residents Nov. 23 - Nov. 28	one white-tailed deer, either sex	
	Zones 2 and 6 (Zone 2 — Antlerless mule deer licence holders only, licence valid east of Highway No. 4) (Zone 6 — Either sex and antlerless mule deer licence holders)	Various mule deer seasons between Nov. 2 and Nov. 14 inclusive	one antlerless white-tailed deer	
White-tailed Deer with Guided Moose (Persons holding valid white-tailed deer licences and possessing guided moose licences)	Zones 60 and 61	Oct. 5 - Oct. 24 and Nov. 2 - Nov. 7	two white-tailed deer, either sex	– Services of a registered guide must be used.
	Zone 62	Oct. 5 - Oct. 24 and Nov. 2 - Nov. 7	one white-tailed deer, either sex	
	Zone 69	Sept. 7 - Sept. 19 and Nov. 2 - Nov. 7	two white-tailed deer, either sex	
	Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Sept. 7 - Sept. 19 and Oct. 5 - Oct. 17	one white-tailed deer, either sex	

MOOSE

A. REVIEW OF 1986 HUNTING SEASON

1. Licence Sales*

	1979	1980	1981	1982	1983	1984	1985	1986
Special	3,616	2,355	2,400	2,034	1,967	1,898	2,105	2,088
Regular	10,230	11,077	10,542	10,212	7,894	8,006	8,125	9,159
Archery					29	41	38	31
Guided	355	284	289	282	212	194	239	208
TOTAL	14,201	13,716	13,232	12,527	10,073	10,165	10,507	11,486

*Final (June 1) sales figures: however all data analysis based on figures available in March and projected to June 1 (see page 4).

2. Hunting Activity and Harvest

(a) Provincial

- Field reports indicated that hunting activity had increased in 1986 with moderate weather during the late moose season. Hunting activity during the early season remained similar to 1985 with higher success rates evident in all zones.
- The hunter questionnaire survey indicated that on a provincial basis, the number of active hunters increased from 9,504 (1985) to 10,190 (1986) and with 34% success, harvest increased from 2,068 (1985) to 3,471 (1986) moose (Table 35, Figure 5). Hunter-days of recreation increased by 15% from 42,859 days in 1985 to 49,348 days in 1986 in response to better hunting conditions.
- In the Commercial Forest zones, the majority of hunting activity and harvest occurs during the late special and regular seasons.

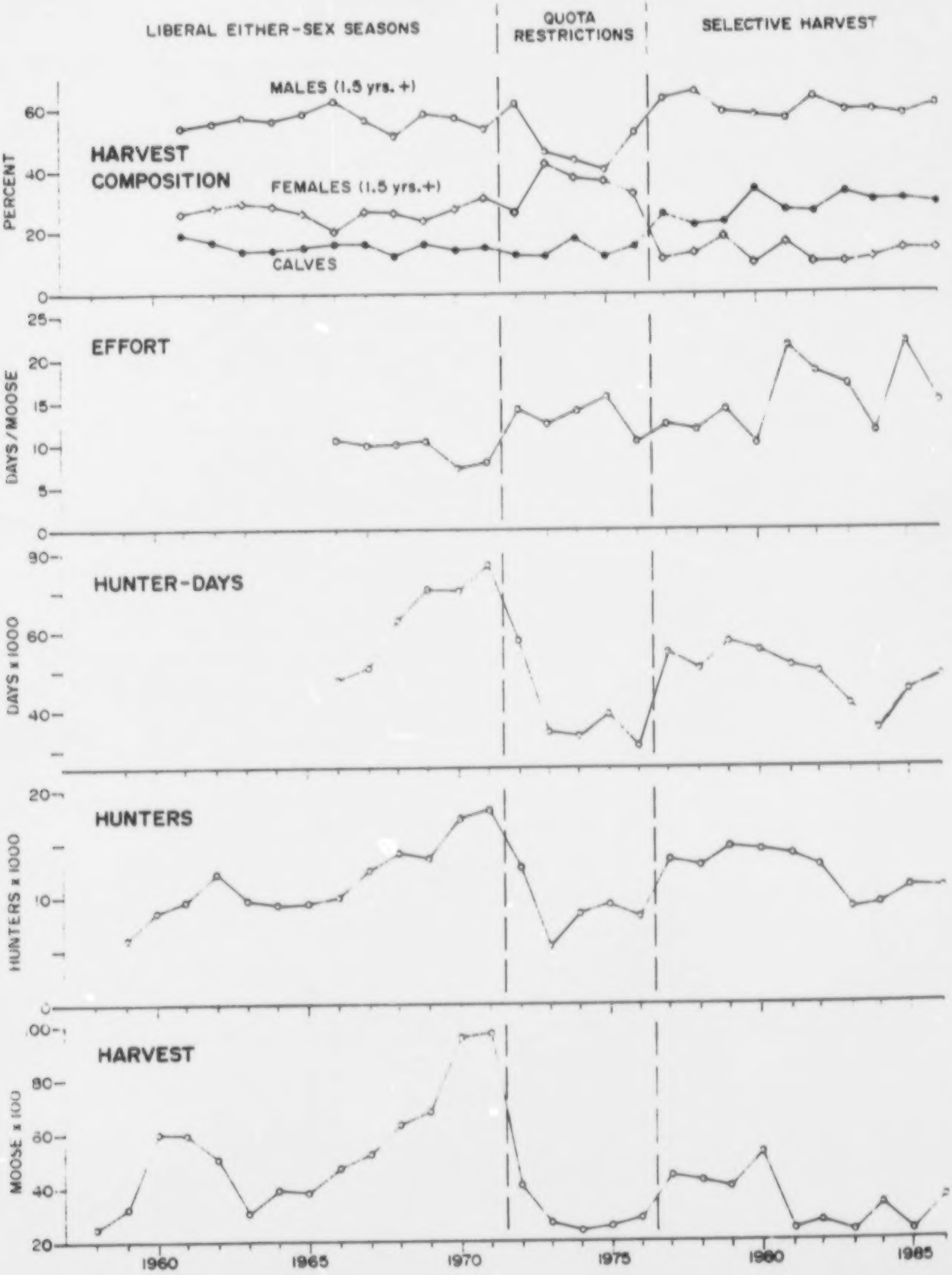
Table 35. Provincial moose harvest, 1986*

SUMMARY TOTALS FOR SPECIES: MOOSE

ZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	HARVEST STRUCTURE FEMALES	HARVEST STRUCTURE YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
GRASS	24	24	13	55.0	13	0.50	1	1.25	85	6	0.0203
FARM	0	0	0	0.0	0	0.00	1	0.00	0	.	.
PARK	124	169	53	43.0	53	1.96	1	1.46	681	13	0.0380
FRINGE	853	1,181	363	42.6	363	2.00	1	1.47	4,674	13	0.3162
FOREST	9,113	10,491	3,027	33.2	3,027	5.85	1	2.41	43,483	14	0.2631
SHIELD	75	110	14	19.0	14	14.21	1	0.00	426	30	0.0023
TOTAL	10,190	11,975	3,471	34.1	3,471	4.97	1	2.19	49,348	14	0.1285

* Does not include 208 Guided Moose licences sold (96 moose harvested) or 193 free Big Game Permits (36 moose harvested) to Northern Trappers.

Figure 5. Estimated provincial hunter success and harvest pressure during the moose season, 1958-1986



(b) Northern Commercial Forest

- In the 1986 Forest special seasons, 1,446 active hunters harvested 676 moose, (a 37% increase from 1985) and experienced a 46% success rate. Hunter-days increased slightly from 6,743 (1985) to 6,993 (1986; Table 36). In addition, 290 active hunters harvested 143 moose in the Forest Fringe Zones 48, 49 and 56 combined. In the Forest regular bull-calf seasons, the number of active hunters increased slightly from 7,447 (1985) to 7,712 (1986) and the harvest increased substantially from 1,413 moose in 1985 to 2,359 moose in 1986 (Table 37). In the Forest Fringe zones, 468 hunters harvested 181 moose (Table 38) during 1986.
- With the increase in hunter recreation and success rates in 1986, present sport harvest is comparable to that of the late 1970's when the new moose management program was implemented.

(c) Southern Zones

i. Moose Mountain Park (WMZ 33) and Cypress Hills (WMZ 7):
No hunting seasons in 1986.

ii. Cypress Hills (WMZ 6):
The 25 licences issued for the first time in WMZ 6 (east block) resulted in a harvest of 13 moose (55% success) and provided 85 hunter-days of recreation (Table 39).

iii. Thickwood Hills (WMZ 54):
No hunting season in 1986.

iv. Fort a la Corne WMU (WMZ 50):
The quota of 100 licences provided 626 days of recreation for 95 hunters with a harvest of 39 moose; this represented a significant increase from 1985.

v. Duck Mountain Park (WMZ 37):
The quota of 100 licences provided 440 hunter-days recreation for 98 hunters with a harvest of 39 moose, a significant increase from 1985 (Table 39).

vi. Greenwater Park (WMZ 56):
The quota of 50 licences attracted 43 hunters for a harvest of 9 moose (21% success), providing 181 recreation-days.

Table 36. Forest and Forest Fringe special either-sex moose harvest, 1986

ECOLOGICAL DIVISION: FOREST

SPECIES: MOOSE

TYPE OF LICENSE: SPECIAL DRAW LICENSE

WMU	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
57	195	195	100	51.3	100	1.29	1	0.33	1,613	16	0.3063
58	194	194	91	46.9	91	0.85	1	0.31	992	11	0.4329
59	186	186	146	78.5	146	0.61	1	0.23	1,560	11	0.3116
60	186	186	97	51.9	97	1.37	1	0.27	912	9	0.2330
61	97	97	35	35.9	35	0.46	1	0.40	425	12	0.1397
62	50	50	23	46.0	23	1.50	1	1.00	290	13	0.0541
67	148	148	76	51.4	76	0.77	1	0.23	765	10	0.0835
68	190	190	108	56.8	108	0.59	1	0.22	897	8	0.2037
	1,446	1,448	676	46.6	676	0.82	1	0.25	6,993	10	0.1729

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: MOOSE

TYPE OF LICENSE: SPECIAL DRAW LICENSE

WMU	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
48,49,56	290	290	143	49.3	143	1.10	1	0.29	1,387	10	0.5629
50	95	95	39	41.1	39	0.56	1	0.31	626	16	0.1879
	385	385	182	47.3	182	0.95	1	0.29	2,013	11	[illegible]

Table 37. Forest and Northern Shield regular bull-calf moose harvest, 1986

ECOLOGICAL DIVISION: FOREST

SPECIES: MOOSE TYPE OF LICENSE: REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
56	1,421	1,677	522	36.8	522	365.98	1	156.32	7,493	14	1.5852
57	1,102	1,300	330	30.0	330	213.17	1	117.24	5,644	17	1.7062
58	397	469	96	24.1	96	60.40	1	35.53	1,453	15	0.6473
59	1,337	1,577	412	30.8	412	312.65	1	99.48	6,729	16	1.1338
60	557	657	167	30.0	167	110.14	1	56.85	2,495	15	0.6373
61	181	213	64	35.4	64	31.98	1	31.98	726	11	0.2388
62	187	220	75	40.0	75	46.19	1	28.42	750	10	0.1692
63	289	341	71	24.6	71	49.74	1	21.32	1,200	17	0.2419
64	69	82	11	15.4	11	10.66	1	0.00	332	31	0.0932
65	81	96	7	8.7	7	3.55	1	3.55	242	34	0.0370
66	400	473	103	25.7	103	92.37	1	10.66	1,763	17	0.1563
67	710	838	249	35.0	249	184.75	1	63.95	3,214	13	0.3705
68	394	465	121	30.6	121	67.50	1	53.29	1,842	15	0.4431
69	190	224	50	26.2	50	39.08	1	10.66	800	16	0.1033
70	99	117	18	17.9	18	7.11	1	10.66	545	31	0.0641
71	48	57	18	36.9	18	14.21	1	3.55	169	10	0.0094
72	60	71	14	23.6	14	14.21	1	0.00	421	30	0.0229
73	114	135	18	15.5	18	17.76	1	0.00	529	30	0.0115
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	7,637	9,013	2,345	30.7	2,345	1641.4	1	703.46	36,348	16	0.2199

ECOLOGICAL DIVISION: NORTHERN SHIELD

SPECIES: MOOSE TYPE OF LICENSE: REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
74	41	60	4	8.6	4	3.55	1	0.00	246	69	0.0054
75	17	25	0	0.0	0	0.00	1	0.00	110	.	0.0019
76	17	25	11	63.0	11	10.66	1	0.00	69	7	0.0009
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	75	110	14	19.0	14	14.21	1	0.00	426	30	0.0023
Total	7712	9123	2359	25.8	2359	---	---	---	36774	---	---

Table 38. Forest Fringe and Parkland regular bull-calf moose harvest, 1986

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: MOOSE

TYPE OF LICENSE: REGULAR LICENSE

WMU	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
48	155	263	64	41.3	64	28.42	1	35.53	984	15	0.3890
49	178	302	64	36.0	64	35.53	1	28.42	997	16	0.4164
53	42	71	7	17.0	7	0.00	1	7.11	177	25	0.0680
55	94	160	46	49.1	46	21.32	1	24.87	502	11	0.1119
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	468	796	181	38.7	181	85.27	1	95.93	2,661	15	0.2[illegible]

ECOLOGICAL DIVISION: PARKLAND

SPECIES: MOOSE

TYPE OF LICENSE: REGULAR LICENSE

WMU	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
43	26	71	14	54.2	14	7.11	1	7.11	241	17	0.0361
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	26	71	14	54.2	14	7.11	1	7.11	241	17	0.0361

Table 39. Duck Mountain, Cypress Hills and WMZ 68 archery special either-sex moose harvest, 1986

ECOLOGICAL DIVISION: PARKLAND

SPECIES: MOOSE | TYPE OF LICENSE: SPECIAL DRAW LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM² IN ZONE
17	98	98	39	40.0	39	1.37	1	0.88	440	11	0.0389
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	98	98	39	40.0	39	1.37	1	0.88	440	11	0.0389

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: MOOSE | TYPE OF LICENSE: SPECIAL DRAW LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM² IN ZONE
6	24	24	13	55.0	13	0.50	1	1.25	85	6	0.0201
	------	-------	------	-----	------	------	-----	------	------	-------	-----
	24	24	13	55.0	13	0.50	1	1.25	85	6	[illegible]

ECOLOGICAL DIVISION: FOREST

SPECIES: MOOSE | TYPE OF LICENSE: ARCHERY

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM² IN ZONE
68	30	30	6	20.0	6	2.00	1	1.00	142	24	0.1341
	------	-------	------	-----	------	------	-----	------	------	-------	---
	30	30	6	20.0	6	2.00	1	1.00	142	24	[illegible]

vii. Archery Season (WMZ 68):

The 30 hunters who participated in the 100 licence quota season harvested 6 moose for a 20% success rate, providing 142 recreation-days (Table 39).

3. Harvest Structure

(a) Hunter Questionnaire Survey

- The provincial harvest structure was estimated to be 4.97 bulls/cow/2.19 calves, with bulls, cows and calves comprising 61%, 12% and 27% of the harvest, respectively (Table 40). In the Forest ecological zone where 87% of the traditional harvest takes place, more bulls and fewer cows and calves (63% bulls, 11% cows, 26% calves) were shot in 1986 than in either 1984 or 1985. Good hunting conditions and improved population densities in northeastern and northwestern zones resulted in higher success rates, particularly for bulls during the regular seasons.

(b) Check Stations

- A total of 1,096 jaw samples were collected at check stations and collection points during the special either-sex and regular bull-calf seasons and classified by sex and age class (Figure 6). The overall harvest structure of 59% bulls, 13% cows and 22% calves differed slightly from the Forest hunter questionnaire data although the difference is not statistically significant.
- Analysis by age class indicated that the harvest consisted of 21.9% calves, 5.1% yearling females, 20.0% yearling males, 8.0% adult cows, and 47.0% adult bulls, (Table 41; Figure 7). In 1986, more yearling and adult bulls and fewer adult cows were harvested than in 1984 or 1985. Since 1984, the mean age of moose harvested (all age classes) has progressively declined from over 3 years to 2.6 and 2.7 years for cows and bulls, respectively in 1986. The mean age for adult moose in 1986 was 5.7 years for cows and 4.1 years for bulls which are lower

Table 40. Provincial moose harvest structure*, 1984-1986

EZONE	1984			1985			1986		
	MALES	FEMALES	YOUNG	MALES	FEMALES	YOUNG	MALES	FEMALES	YOUNG
GRASSLAND	0.00	1	0.00	0.00	1	0.00	0.50	1	1.25
FARMLAND	0.00	1	0.00	0.00	1	0.00	0.00	1	0.00
PARKLAND	0.11	1	0.56	1.66	1	0.80	1.96	1	1.46
FRINGE	8.34	1	8.72	1.89	1	1.59	2.00	1	1.47
FOREST	5.08	1	2.34	4.75	1	2.29	5.85	1	2.41
SHIELD	18.75	1	0.00	15.03	1	0.00	14.21	1	0.00
TOTAL	4.99	1	2.56	4.09	1	2.16	4.97	1	2.19
PERCENT	59%	12%	29%	56%	14%	30%	61%	12%	27%
PERCENT (FOREST ONLY)	60%	12%	28%	59%	13%	28%	63%	11%	26%

*Includes both regular bull-calf and special either-sex seasons but not guided moose licences or free big game permits to trappers.

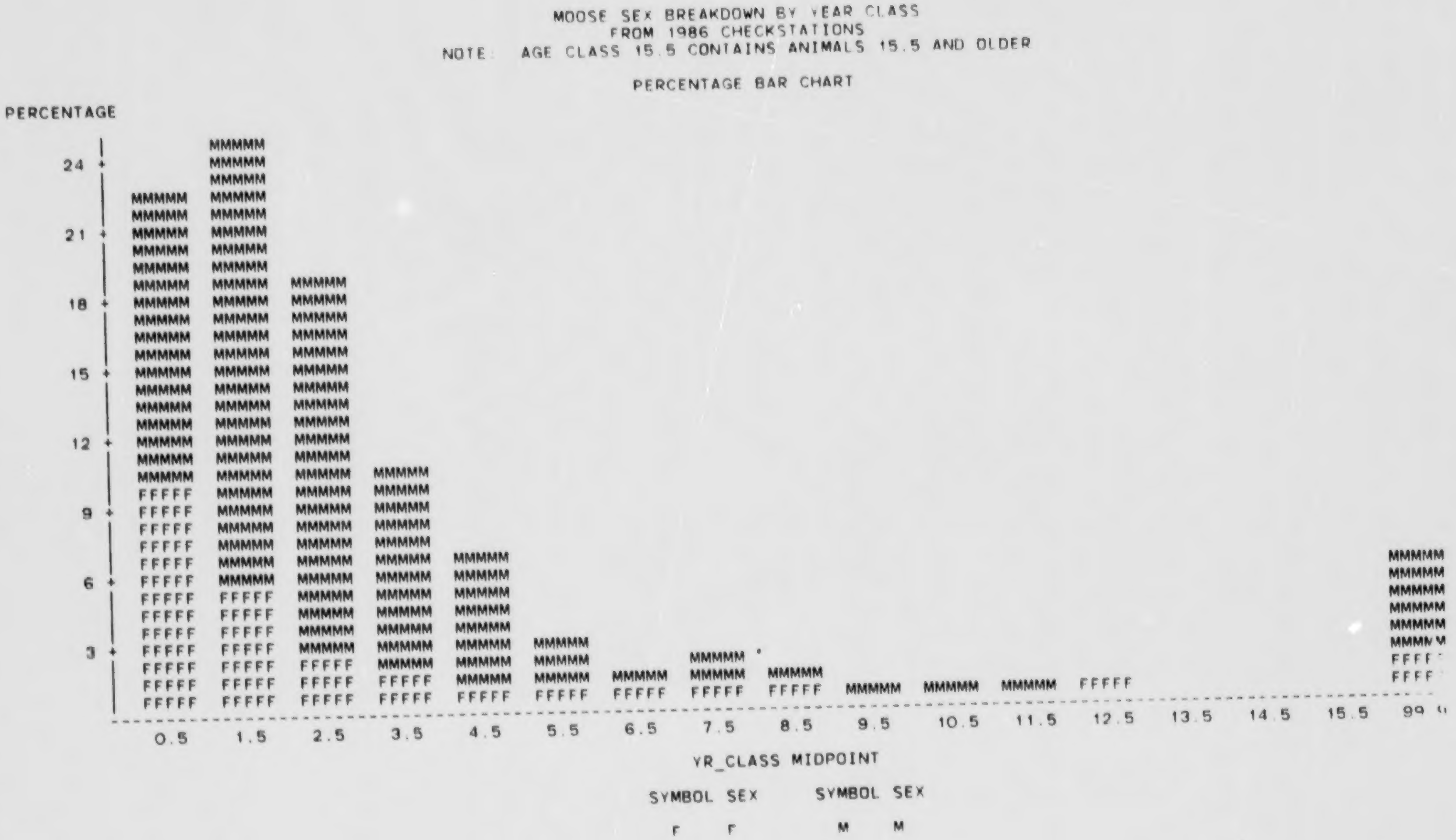


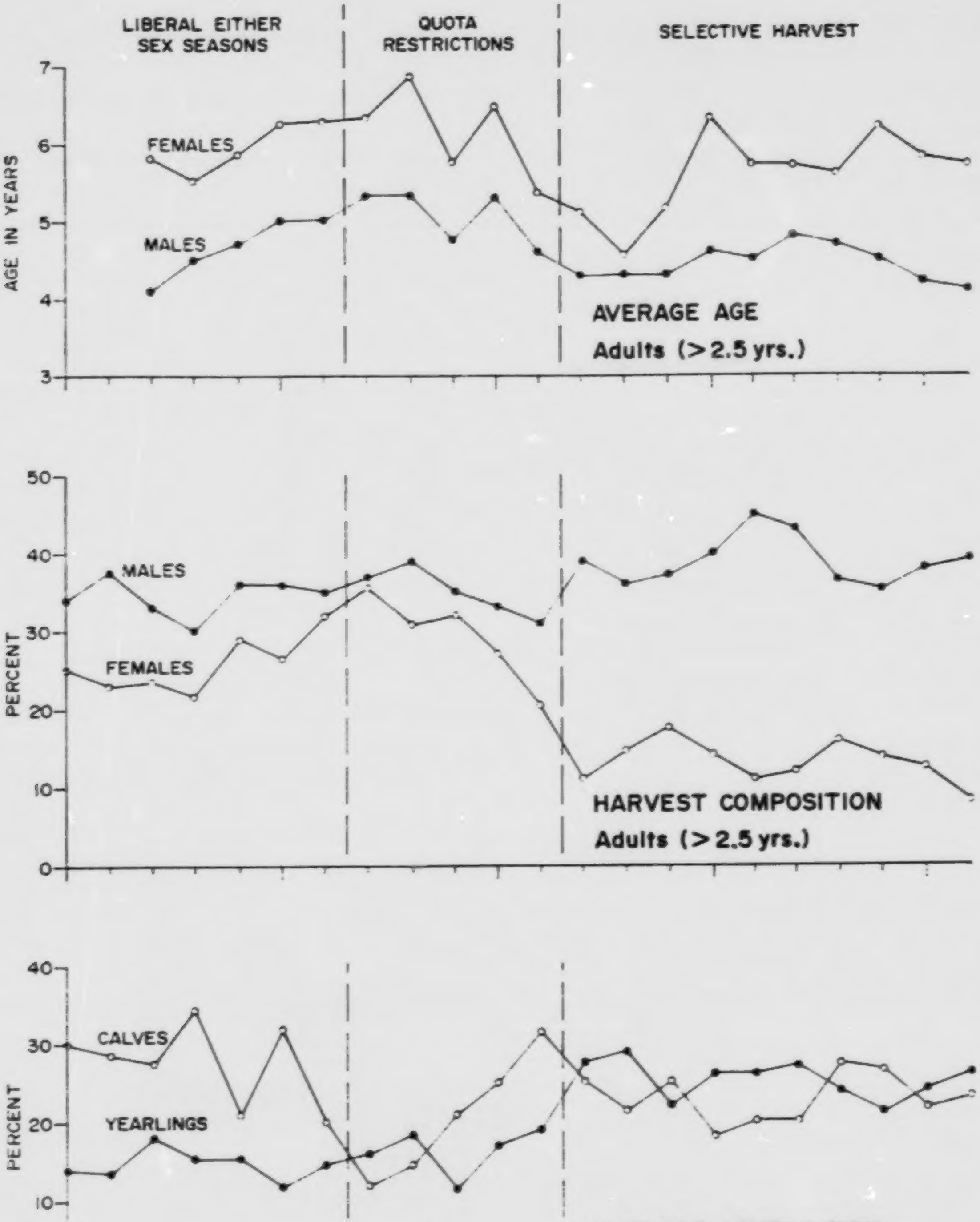
Figure 6. Sex and age composition (bar chart) of the moose harvest based on check station samples, 1986

Table 41. Sex and age class composition of the northern moose harvest based on check station samples, 1984-1986

Age Class	1984 Female n = 339	1984 Male n = 713	1984 Total %	1985 Female n = 258	1985 Male n = 698	1985 Total %	1986 Female n = 261	1986 Male n = 835	1986 Total %
0.5	12.2	11.5	= 23.7	8.8	12.2	= 21.0	9.5	12.4	= 21.9
1.5	4.7	15.6	= 20.3	4.9	17.2	= 22.1	5.1	20.0	= 25.1
2.5	1.8	11.1		3.4	14.4		1.9	16.4	
3.5	1.8	8.1		2.1	9.2		1.4	8.9	
4.5	1.7	4.6		1.2	4.3		0.7	5.8	
5.5	1.4	3.3		0.4	2.3		0.6	2.3	
6.5	2.0	2.5	= 48.9	1.6	1.8	= 50.3	0.6	1.0	= 47.0
7.5	1.4	1.9		0.7	1.5		0.5	1.2	
8.5	1.2	1.6		0.7	1.8		0.8	0.9	
9.5	0.9	0.8		0.6	1.3		0.3	0.9	
10.5+	1.6	1.2		1.6	1.4		1.2	1.6	
Unknown Age*	1.3	5.1		1.1	5.8		1.4	4.7	
Mean Age (All Age Classes)	3.5	3.0		3.1	2.9		2.6	2.7	
Mean Age (Adult Age Classes 2.5 yrs +)	6.2	4.5		5.8	4.2		5.7	4.1	

*Unknown age animals not included in the calculations.

Figure 7. Sex and age composition of the provincial moose harvest based on check station samples, 1965-1986



values than for similar age classes in either 1984 or 1985. These results suggest that there were more young animals in the northern moose herd in 1986 than in the recent past, which is characteristic of expanding populations.

- The sex and age breakdown for the special either-sex and regular bull-calf seasons in 1986 show similar trends with a high proportion of young age class animals (Tables 42 and 43).

B. POPULATION STATUS

1. Density: Transect Surveys

- Provincial population trend survey estimates increased from 0.35 moose/km^2 (1985-86) to 0.59 moose/km^2 (1986-87; excluding Greenwater Park) with population estimates higher in 7 of the 8 survey units flown last winter (Table 44; Figure 8).
- Northwest Commercial Forest zone estimates increased slightly with the most significant increases noted in the Waterhen-Keeley (WMZ 69) and Divide Forest (WMZ 67) areas. However, all zones remain below the long-term average (1977-86) with estimates ranging from 0.19 to 0.34 moose/km^2.
- Estimates for central Commercial Forest zones increased, but with exception of the Torch River survey (WMZ 62), remained below the long-term average; 1986 estimates ranged from 0.09 to 0.22 moose/km^2.
- Northeastern Commercial Forest zone estimates improved dramatically except for the Cumberland Central (WMZ 60) area. The Hudson Bay zone estimates remain above the long-term average with 0.41 to 1.12 moose/km^2. The Cumberland Delta zone estimates are still below the long-term average but indicate increasing populations (0.46 to 0.74 moose/km^2).

2. Density: Quadrat Surveys

- The absence of snow in southern Saskatchewan during the winter of 1986-87 reduced aerial surveys for white-tailed deer and allowed survey efforts to be redirected to extensive quadrat surveys for moose.

Table 42. Sex and age composition of the special either-sex season moose harvest, 1986

```
                     CROSSTAB OF SEX AND AGE BREAKDOWN FOR SPECIAL SEASONS
                                FROM 1986 MOOSE CHECKSTATIONS
                     NOTE:  AGE CLASS 15.5 CONTAINS ANIMALS 15.5 AND OLDER

                                  TABLE OF SEX BY YR_CLASS

SEX       YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |       0|     0.5|     1.5|     2.5|     3.5|     4.5|     5.5|     6.5|     7.5|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |       0 |     15 |     55 |     20 |     13 |      8 |      6 |      6 |      5 |    164
         |    0.00 |   4.34 |  15.90 |   5.78 |   3.76 |   2.31 |   1.73 |   1.73 |   1.45 |  47.40
         |    0.00 |   9.15 |  33.54 |  12.20 |   7.93 |   4.88 |   3.66 |   3.66 |   3.05 |
         |    0.00 |  35.71 |  49.55 |  35.09 |  40.63 |  38.10 |  46.15 |  85.71 |  71.43 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |       1 |     27 |     56 |     37 |     19 |     13 |      7 |      1 |      2 |    182
         |    0.29 |   7.80 |  16.18 |  10.69 |   5.49 |   3.76 |   2.02 |   0.29 |   0.58 |  52.60
         |    0.55 |  14.84 |  30.77 |  20.33 |  10.44 |   7.14 |   3.85 |   0.55 |   1.10 |
         |  100.00 |  64.29 |  50.45 |  64.91 |  59.38 |  61.90 |  53.85 |  14.29 |  28.57 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL            1       42      111       57       32       21       13        7        7      346
              0.29    12.14    32.08    16.47     9.25     6.07     3.76     2.02     2.02   100.00

(CONTINUED)
                                  TABLE OF SEX BY YR_CLASS

SEX       YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |     8.5|     9.5|    10.5|    11.5|    12.5|    13.5|    14.5|    99.9|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |       8 |      3 |      3 |      1 |      4 |      1 |      1 |     15 |    164
         |    2.31 |   0.87 |   0.87 |   0.29 |   1.16 |   0.29 |   0.29 |   4.34 |  47.40
         |    4.88 |   1.83 |   1.83 |   0.61 |   2.44 |   0.61 |   0.61 |   9.15 |
         |   66.67 |  60.00 |  50.00 |  50.00 | 100.00 | 100.00 | 100.00 |  62.50 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |       4 |      2 |      3 |      1 |      0 |      0 |      0 |      9 |    182
         |    1.16 |   0.58 |   0.87 |   0.29 |   0.00 |   0.00 |   0.00 |   2.60 |  52.60
         |    2.20 |   1.10 |   1.65 |   0.55 |   0.00 |   0.00 |   0.00 |   4.95 |
         |   33.33 |  40.00 |  50.00 |  50.00 |   0.00 |   0.00 |   0.00 |  37.50 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL           12        5        6        2        4        1        1       24      346
              3.47     1.45     1.73     0.58     1.16     0.29     0.29     6.94   100.00
```

Table 43. Sex and age composition of the regular bull-calf season moose harvest, 1986

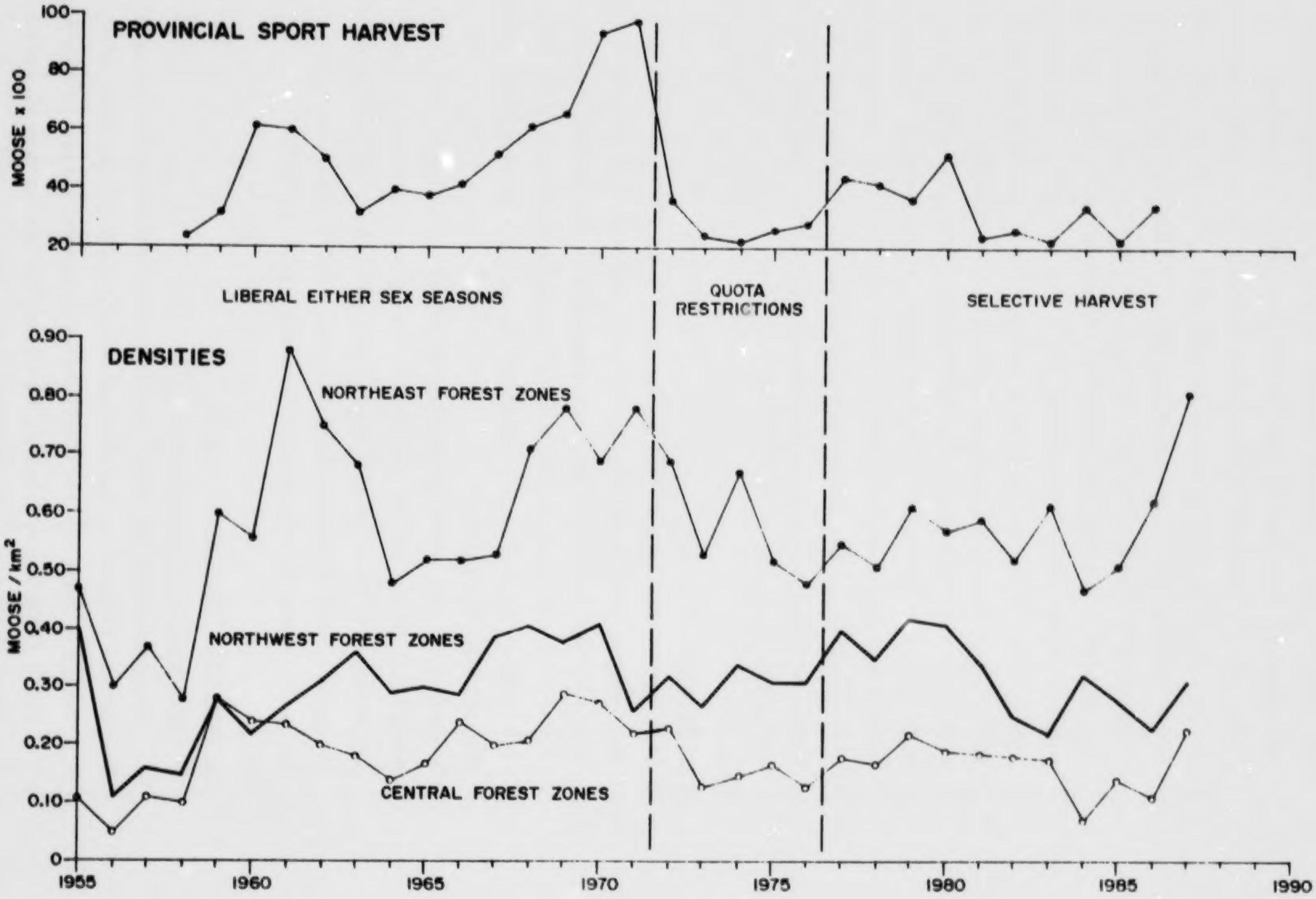
```
                    CROSSTAB OF SEX AND AGE BREAKDOWN FOR REGULAR SEASON
                                FROM 1986 MOOSE CHECKSTATIONS
                       NOTE:  AGE CLASS 15.5 CONTAINS ANIMALS 15.5 AND OLDER

                                  TABLE OF SEX BY YR_CLASS

SEX       YR_CLASS

FREQUENCY|
PERCENT  |
ROW PCT  |
COL PCT  |     0.5|     1.5|     2.5|     3.5|     4.5|     5.5|     6.5|     7.5|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |      85 |      1 |      0 |      1 |      0 |      0 |      0 |      0 |     88
         |   12.11 |   0.14 |   0.00 |   0.14 |   0.00 |   0.00 |   0.00 |   0.00 |  12.54
         |   96.59 |   1.14 |   0.00 |   1.14 |   0.00 |   0.00 |   0.00 |   0.00 |
         |   44.97 |   0.67 |   0.00 |   1.32 |   0.00 |   0.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |     104 |    149 |    136 |     75 |     49 |     18 |      9 |      9 |    614
         |   14.81 |  21.23 |  19.37 |  10.68 |   6.98 |   2.56 |   1.28 |   1.28 |  87.46
         |   16.94 |  24.27 |  22.15 |  12.21 |   7.98 |   2.93 |   1.47 |   1.47 |
         |   55.03 |  99.33 | 100.00 |  98.68 | 100.00 | 100.00 | 100.00 | 100.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL         189      150      136       76       49       18        9        9     702
            26.92    21.37    19.37    10.83     6.98     2.56     1.28     1.28  100.00

(CONTINUED)
                                  TABLE OF SEX BY YR_CLASS

SEX       YR_CLASS

FREQUENCY|
PERCENT  |
ROW PCT  |
COL PCT  |     8.5|     9.5|    10.5|    11.5|    12.5|    13.5|    99.9|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |       1 |      0 |      0 |      0 |      0 |      0 |      0 |     88
         |    0.14 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |  12.54
         |    1.14 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
         |   14.29 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+
MALE     |       6 |      8 |      4 |      5 |      3 |      1 |     38 |    614
         |    0.85 |   1.14 |   0.57 |   0.71 |   0.43 |   0.14 |   5.41 |  87.46
         |    0.98 |   1.30 |   0.65 |   0.81 |   0.49 |   0.16 |   6.19 |
         |   85.71 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
---------+--------+--------+--------+--------+--------+--------+--------+
TOTAL           7        8        4        5        3        1       38     702
             1.00     1.14     0.57     0.71     0.43     0.14     5.41  100.00
```

Table 44. Moose population estimates based on transect aerial surveys, 1977-1987

Area	Zone	Sq. km	Moose/km^2											1977-86 Average	Change From Last Survey (%)	Change From Average (%)
			1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987			
Porcupine East	57	284.9	0.62	0.22	0.38	0.48	0.47	0.36	0.58	0.28	0.44	0.45	0.59	0.43	+31	+37
Porcupine West	56	201.0	0.49	0.42	0.94	0.59	0.47	0.54	0.68	0.39	0.42	0.67	0.94	0.56	+40	+68
Leaf Lake	58	323.7	0.49	0.53	0.44	0.29	0.29	0.50	0.36	0.40	0.36	0.41	----	0.39	+14	+5
Greenwater	56	42.7	0.44	0.14	0.28	0.28	0.21	0.19	0.89	0.37	0.52	1.26*	0.96	0.46	-24	+109
Cumberland South	60	375.5	0.50	0.50	0.59	0.52	0.49	----	0.49	0.43	0.35	0.46	----	0.49	+31	-6
Cumberland Central	60	106.2	0.62	0.47	0.50	0.39	0.73	0.41	0.37	0.32	0.44	0.56	0.47	0.48	-16	-2
Pine Bluff	61	119.1	0.66	1.21	1.17	0.77	0.91	0.94	0.81	0.83	0.64	0.39	0.74	0.83	+90	-11
Connell Creek***	59	116.5***	----	----	----	1.20	1.18	0.71	0.68	0.65	0.82	0.74	1.12	0.85	+51	+32
Candle Lake East	63	251.2	0.24	0.15	0.17	0.08	0.15	----	0.12	0.04	0.11	0.10	----	0.13	-9	-23
Torch River	62	196.8	0.20	0.34	0.26	0.21	0.21	0.18	0.25	0.10	0.17	0.12	0.22	0.20	+83	+10
Dore South	66	626.8	0.23	0.13	0.32	0.27	0.19	0.17	0.13	0.07	----	0.09	----	0.17	+29	-47
Waterhen-Keeley**	69	353.5**	0.27	0.24	0.28	0.33	0.21	----	----	0.27	0.18	0.11	0.27	0.23	+145	+17
Cold Lake	69	248.6	0.31	0.26	0.34	0.30	0.29	----	0.20	0.13	0.15	0.19	----	0.24	+27	-21
Divide	67	422.2	0.42	0.28	0.53	0.46	0.39	0.27	0.19	0.30	0.44	0.26	0.33	0.35	+27	-6
Bronson	68	392.1	0.59	0.62	0.51	0.56	0.42	----	0.24	0.49	0.31	0.34	----	0.46	+10	-26

* based on comparable survey blocks   ** revised survey in 1980   *** revised survey in 1981

Figure 8. Northern moose population estimates based on transect aerial surveys, 1959-1987



- The 1986 Porcupine Forest, Bronson Forest and Cumberland South survey estimates at 3276 ± 17%, 1457 ± 20% and 1724 ± 20% moose, respectively, indicate stable populations with no significant change evident from survey estimates in 1983 and 1984 (Table 45). Although the data suggests minor increases in all three survey areas, confidence intervals overlap between survey years.
- The Thunder Hills and Cub Hills moose restoration areas had population estimates in 1987 of 125 ± 20% and 278 ± 20%, respectively (Table 45). Although this data suggests that the Thunder Hills densities have increased from 0.28 to 0.37 moose/km^2 and Cub Hills from 0.19 to 0.34 moose/km^2, associated confidence intervals are too wide to infer that significant population changes have taken place. Subjective assessments by field staff indicate that small increases have occurred in the moose populations of both areas since 1983 when road closures, game preserves, and corridor game preserves were implemented.

3. Population Structure:

- In 6 Commercial Forest WMZ, 1,049 moose were classified by sex and age using a helicopter during December 1986 and January 1987 (Table 46). The estimated sex and age composition determined from these surveys is indicative of a healthy population structure in all management zones. Small increases in calf production were noted in WMZ 59, 60, 61 and 63.
- A total of 1,262 moose were classified in the Cooperative Wildlife Management Study during the period September to November, 1986 compared to a total of 615 moose in 1985. Observers reported 79 bulls/100 cows/59 calves (21% twinning rate), compared to 84 bulls/100 cows/58 calves (21% twinning rate) in 1985.

4. Southern WMZ: Population Status

(a) Cypress Hills Park (WMZ 6 and 7):

- The population in WMZ 7 remains lower than desired owing to poor browse conditions and unregulated harvest in the West Block. During a February 1987 helicopter transect survey in the East Block (WMZ 6), a total of 96 moose (84 adults and 12 calves) located primarily on private land were observed.

Table 45. Moose population estimates* based on stratified random quadrat aerial survey sampling, 1981-1987

Survey Block	WMZ	Survey Area km^2	1981-82 Estimate (moose/km^2)	1982-83 Estimate (moose/km^2)	1983-84 Estimate (moose/km^2)	1984-85 Estimate (moose/km^2)	1985-86 Estimate (moose/km^2)	1986-87 Estimate (moose/km^2)
Bronson	68	3186	---	1376 ± 22% (0.43/km^2)	---	---	---	1457 ± 20% (0.46/km^2)
Cub Hills**	63	822	---	160 ± 32% (0.19/km^2)	194 ± 29% (0.23/km^2)	282 ± 24% (0.35/km^2)	---	276 ± 20% (0.34/km^2)
Cumberland South	60	2279	---	---	1667 ± 20% (0.73/km^2)	---	---	1724 ± 20% (0.76/km^2)
Duck Mt. Park	37	469	---	228 ± 18% (0.49/km^2)	---	---	---	372 ± 22% (0.79/km^2)
Moose Mt. Park	33	684	205 ± 17% (0.30/km^2)	426 ± 20% (0.62/km^2)	370 ± 19% (0.54/km^2)	356 ± 23% (0.52/km^2)	302 ± 20% (0.44/km^2)	418 ± 18% (0.61/km^2)
Porcupine	56 & 57	3553	---	---	3092 ± 15% (0.87/km^2)	---	---	3346 ± 17% (0.94/km^2)
Thunder Hills**	66	340	---	97 ± 22% (0.28/km^2)	106 ± 26% (0.31/km^2)	158 ± 17% (0.46/km^2)	---	120 ± 33% (0.35/km^2)

* Moose population estimate ± 95% C.I.

**Represent moose restoration project areas; survey design differs slightly from other survey blocks.

Table 46. Sex and age composition of the northern moose population based on post-season helicopter observations, 1984-1986

WMZ	Bull/Cow/Calf Ratio (sample size)		
	1984	1985	1986
54	---	---	26/100/69 (76)
56	42/100/58 (148)	69/100/69 (162)	---
57	31/100/41 (146)	30/100/55 (155)	---
58	34/100/40 (134)	32/100/59 (211)	---
59	52/100/54 (126)	45/100/35 (469)	56/100/52 (200)
60	27/100/33 (152)	58/100/54 (146)	60/100/60 (110)
60a*	48/100/48 (253)	94/100/45 (79)	85/100/65 (161)
61	40/100/51 (254)	64/100/44 (202)	51/100/47 (144)
61a**	54/100/33 (152)	56/100/42 (71)	41/100/52 (174)
63	---	61/100/43 (90)	82/100/47 (112)
64	20/100/46 (108)	124/100/39 (87)	---
66	48/100/50 (102)	50/100/41 (88)	90/100/42 (72)
67	39/100/45 (159)	39/100/55 (170)	---
68	42/100/65 (163)	31/100/61 (160)	---
69	43/100/51 (164)	47/100/30 (143)	---
Commercial Forest	41/100/49 (1963)	50/100/47 (2233)	58/100/54 (1049)

*60(a) - Lobstick Lake - Bear removal study area

**61(a) - Bearhead Marsh - Bear removal study area

(b) Fort a la Corne WMU (WMZ 50):

- No aerial survey was conducted in 1986-87. WMZ 50 has been identified as a high priority for the 1987-88 aerial survey effort in order to assemble the necessary data to reassess licence quota allocations and season dates.

(c) Duck Mountain Park (WMZ 37):

- A quadrat survey completed in January 1987, indicated a moose population of 372 ± 15% compared to 228 ± 18% in 1983 (Table 45).

(d) Greenwater Park (WMZ 56):

- Transect survey estimates indicated a decrease from 1.26 moose/km^2 (1985-86) to 0.96 moose/km^2 (1986-87) although the Greenwater population estimates generated from the transect survey traditionally show wide annual fluctuations (Table 44).

(e) Moose Mountain Park (WMZ 33):

- Quadrat surveys in recent years have indicated a progressively declining population from 463 ± 20% moose in 1983 to 302 ± 20% moose in 1986 (Table 45). The 1987 estimate of 418 ± 18% suggests that the population may be recovering although confidence intervals overlap from year to year. Unregulated harvest continues to remain high and may be a major factor limiting further population growth in this population.

(f) Thickwood Hills (WMZ 54):

- The results of a transect survey in January 1987 (48 observed moose) were applied to project a WMZ 54 population estimate of 0.33 moose/km^2 or 420 animals south of Highway No. 3.

D. 1987 MANAGEMENT OBJECTIVES

Moose populations continued to increase in the northwestern and northeastern Forest zones in 1986-87. However special problems (increased forest road access) in the central forest zones still require special management action.

The long-term management objective for moose is to meet user demand by increasing the Saskatchewan moose population, harvest and recreation to levels higher than currently exist. The biological objectives of the selective harvest moose management program introduced in 1977 remain the same today. The department is actively engaged in programs such as the establishment of Moose Restoration Areas, Area Game Preserves, Road Corridor Game Preserves and bear removal incentives to reduce the effect of factors limiting population expansion.

1. For 1987, special quotas will be maintained except for a reduction of 50 licences in WMZ 55 and 68 combined and a new 100 licence quota in WMZ 54. A high level of protection for breeding females will be continued in 1986 by maintaining similar quotas to those of last year.

2. The early and late regular season structure will be maintained for most WMZ's. The exception will be WMZ 74 to 76 where the early season will be extended to run through the rut and the late season closed because of late fall access problems. The strategy of insulating breeding moose from hunter disturbance during the peak rut period will be maintained in all other WMZ's where harvest rates are higher and access is easier for the sport hunter.

3. Game preserve and road closure initiatives rather than season closures will be maintained as the principal management tools to increase populations in the central forest zones.

4. The impact of the Moose Restoration Program on moose populations will continue to be monitored closely. For 1987 several new road corridor game preserves will be implemented and a number of unused forest access roads will be closed in the commercial forest zones.

5. WMZ 68 will continue to be included with WMZ 48, 49, 56 to 59 in the existing all terrain vehicle restriction. A.T.V.'s may only be operated between noon and midnight in these zones. Extensive seismic activity over the past several years has created a network of cut-lines in WMZ 68 which has resulted in vehicle abuse that has a negative impact on hunter recreation and moose populations. The restriction was viewed favorably by most hunters in 1986 and helped to control vehicle abuses.

6. WMZ 37 (Duck Mountain Park) will be opened to archery moose hunters in 1987. The 50 licence quota season is designed to provide archers with recreation opportunity on the east side of the province and will operate at the same time as the existing WMZ 55 and 68 combined archery season.

7. Southern Areas:
   (a) Moose Mountain Park (WMZ 33):
   The season will remain closed to sport hunters in 1987, although in view of the current status of this population, limited quota is being considered for 1988.
   (b) Cypress Hills Park (WMZ 6 & 7):
   In view of an increasing moose population in WMZ 6, the small licence quota (25) will be maintained in 1987. WMZ 7 will remain closed due to low populations and existing unregulated harvest.
   (c) Thickwood Hills (WMZ 54):
   A 100 licence quota season will be implemented in 1987 to capitalize upon the increased moose population.
   (d) Fort a la Corne WMU (WMZ 50):
   A quota of 100 licences will be maintained in 1987.
   (e) Duck Mountain Park (WMZ 37):
   The present 100 licence quota will be retained as the existing hunting regime appears to be maintaining stable populations.
   (f) Greenwater Park (in WMZ 56):
   A quota of 50 licences will be maintained in 1987.

E. 1987 MOOSE SEASONS

Special Moose	Zone 6	Oct. 26 - Oct. 31	one moose, either sex	– Licence quotas (in brackets) for each zone: 6(25), 37(100), 50(100), 54(100), 48, 49 and 56 combined (300), 57(200), 58(200), 59(400), 60(200), 61(100), 62(50), 67(150), 55 and 68 combined (150), Greenwater Provincial Park (50) **Note: Some portions of the Meeting and Royal Lake PFRA Pastures in Zone 54 will be closed to moose hunting. Watch for "No Hunting" signs.**
	Zones 48, 49, 56, 57 to 62 and 67, including Leaf Lake Wildlife Management Unit	Sept. 14 - Sept. 19 and Nov. 2 - Nov. 14	one moose, either sex	
	Zones 55 and 68, including Bronson Forest Recreation Site	Nov. 2 - Nov. 14	one moose, either sex	
	Zone 37, including Duck Mountain Provincial Park	Nov. 2 - Nov. 14	one moose, either sex	
	Greenwater Provincial Park Only	Nov. 2 - Nov. 14	one moose, either sex	
	Zone 50, including Fort a la Corne Wildlife Management Unit	Sept. 14 - Sept. 26 and Nov. 2 - Nov. 14	one moose, either sex	
	Zone 54	Nov. 9 - Nov. 14	one moose, either sex	
Moose (Archery)	Zones 37, 55 and 68, including Duck Mountain Provincial Park and Bronson Forest Recreation Site	Sept. 14 - Sept. 26	one moose, either sex	– Archery moose licences valid only during the archery season; licence quotas (in brackets) for each zone: 37(50), 55 and 68 combined (100).
Regular Moose (Sask. Residents Only)	Zones 43, 48, 49, 53, 56 to 67 and 69, including Cookson and Leaf Lake Wildlife Management Units, and Nipawin Provincial Park	Oct. 5 - Oct. 10	one bull or one 1987 calf moose	– "Bull Moose" means a male moose one or more years old. "Calf Moose" means any moose born in 1987. "Cow Moose" means a female moose one or more years old. – Successful applicants for a special moose licence are not eligible to purchase a regular moose licence. – The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.
Early Season	Zones 70 to 73, including Clearwater River and Lac La Ronge Provincial Parks	Aug. 31 - Sept. 19	one bull or one 1987 calf moose	
	Zones 74, 75 and 76	Aug. 31 - Oct. 10	one bull or one 1987 calf moose	
Late Season	Zones 43, 48, 49 and 56 to 59, including Leaf Lake Wildlife Management Unit	Nov. 16 - Nov. 28	one bull or one 1987 calf moose	
	Zones 53, 55 and 60 to 69, including Cookson Wildlife Management Unit, Nipawin Provincial Park and Bronson Forest Recreation Site	Nov. 16 - Nov. 21	one bull or one 1987 calf moose	
	Zones 70 to 73, including Clearwater River and Lac La Ronge Provincial Parks	Nov. 2 - Nov. 28	one bull or one 1987 calf moose	
Guided Moose (Canadian Residents and Non-residents)	Zones 60, 61 and 62	Oct. 5 - Oct. 24 and Nov. 2 - Nov. 21	one bull or one 1987 calf moose	– The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.
	Zone 69	Sept. 7 - Sept. 19, Oct. 5 - Oct. 10 and Nov. 2 - Nov. 21	one bull or one 1987 calf moose	– Services of a registered guide must be used.
	Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Sept. 7 - Sept. 19, Oct. 5 - Oct. 17 and Nov. 2 - Nov. 28	one bull or one 1987 calf moose	– 400 Guided Moose Licences are available directly from outfitters. Quotas (in brackets) for each zone: 60(60), 61(115), 62(15), 69(15), 70(10), 71(45), 72(45), 73(10), 74(45), 75(10), 76(30).

MULE DEER

A. REVIEW OF 1986 HUNTING SEASON

1. Licence Sales*

	1980	1981	1982	1983	1984	1985	1986
Regular	4100	4329	5471	5754	5754	6561	6860
Antlerless	--	--	1913	1455	6331	9069	4046
Archery	245	351	600	775	804	969	1015
Muzzleloader	--	--	--	--	--	--	275
Total	4345	4679	7984	7984	12889	16609	12196

* Final (June 1) sales figures: however all data analysis based on figures available in March and projected to June 1 (see page 4).

- 1986 figures represent an increase in regular licence sales but a reduction in antlerless licences.
- mule deer licences for muzzleloader hunters were available for the first time in 1986.

2. Harvest

- The mule deer harvest decreased by 59% from 16,311 in 1985 to 9,691 in 1986 (Table 47) as a result of a reduction in the antlerless quotas and elimination of the 2 deer bag limit for antlerless hunters.
- Regular either-sex season hunter success was 84.7%, which represents an increase from the 73% reported for 1985 (Table 48).
- Antlerless hunter success was 85.6% in 1986, up from 75% in 1985 (Table 49). This increase probably resulted from the quota reduction from two deer in 1985 to a single deer per hunter in 1986.

3. Hunter Recreation

- Recreation-days totalled 23,454, which is a decrease from the 29,435 days in 1985.
- Hunter-days/animal decreased from 3 in 1985 to 2 for the either-sex season and increased from 1 in 1985 to 2 for the antlerless season.

Table 47. Provincial mule deer harvest, 1986

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

FOR THE 1986 HUNTING YEAR

SUMMARY TOTALS FOR SPECIES: MULE DEER

I ZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
GRASS	9,976	9,981	8,221	82.4	8,221	1.12	1	0.45	19,807	2	0.3057
FARM	1,533	1,533	1,276	83.2	1,276	2.37	1	0.34	3,051	2	0.0641
PARK	242	244	194	80.2	194	2.57	1	0.81	596	3	0.0438
FRINGE	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FOREST	0	0	0	0.0	0	0.00	1	0.00	0	.	.
SHIELD	0	0	0	0.0	0	0.00	1	0.00	0	.	.
TOTAL	11,751	11,758	9,691	82.5	9,691	1.26	1	0.45	23,454	2	0.1861

Table 48. Estimated hunter success and harvest pressure during the either-sex mule deer rifle season, 1986

SPECIES: MULE DEER

TYPE OF LICENSE: 1ST REGULAR LICENSE (DRAW)

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
1	100	100	95	95.1	95	6.12	1	0.13	159	2	0.0191
2	967	967	825	85.3	826	4.09	1	0.37	1,878	2	0.1765
3	278	278	216	77.7	217	1.47	1	0.41	557	3	0.1296
4	96	96	88	91.9	90	3.75	1	0.08	173	2	0.0213
5	301	301	265	88.0	265	3.56	1	0.41	498	2	0.0835
6	390	390	362	92.9	366	5.59	1	0.20	792	2	0.1888
7	290	290	240	82.7	246	4.46	1	0.38	673	3	0.3551
8	51	51	46	90.6	48	4.80	1	0.20	92	2	0.0272
9	485	485	455	93.7	455	6.05	1	0.59	789	2	0.2296
10	791	791	737	93.1	738	9.58	1	0.42	1,242	2	0.3502
11	47	47	46	97.6	46	9.25	1	0.00	68	1	0.0691
12	147	147	132	89.7	132	6.45	1	0.45	246	2	0.7142
13	395	395	359	91.0	359	4.85	1	0.29	671	2	0.1643
14	594	594	500	84.1	501	3.24	1	0.23	1,047	2	0.1876
	4,932	4,932	4,365	88.5	4,385	4.63	1	0.35	8,884	2	0.1371
FARMLAND											
19	197	197	178	90.3	178	2.18	1	0.26	383	2	0.0415
23	250	250	205	82.1	207	3.14	1	0.32	508	2	0.0884
24	248	248	214	86.2	214	4.20	1	0.32	472	2	0.0978
25	197	197	174	88.5	174	2.93	1	0.21	333	2	0.0572
26	211	211	193	91.4	193	2.57	1	0.33	375	2	0.0830
27	148	148	138	93.0	138	1.55	1	0.27	283	2	0.0576
29	145	145	83	57.1	83	2.00	1	0.43	366	4	0.0686
30	88	88	48	54.5	48	1.08	1	0.42	271	6	0.0373
	1,484	1,484	1,233	83.1	1,234	2.55	1	0.31	2,989	2	0.0628
PARKLAND											
45	95	96	72	76.0	72	1.27	1	0.60	227	3	0.0296
46	147	148	122	82.9	122	4.27	1	1.09	370	3	0.0620
	242	244	194	80.2	194	2.57	1	0.81	596	3	0.0438

Table 49. Estimated hunter success and harvest pressure during the antlerless mule deer rifle season, 1986

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1986 HUNTING YEAR

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: MULE DEER TYPE OF LICENSE: 1ST ANTLERLESS LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	HARVEST STRUCTURE FEMALES	HARVEST STRUCTURE YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1	63	63	62	97.9	62	0.00	1	0.44	78	1	0.0094
2	613	613	509	83.1	509	0.00	1	0.52	1,024	2	0.0962
3	21	21	18	85.0	18	0.00	1	0.70	32	2	0.0075
4	36	36	33	91.7	33	0.00	1	0.16	43	1	0.0053
5	108	108	100	93.0	100	0.00	1	0.40	125	1	0.0209
6	262	262	233	88.9	233	0.00	1	0.49	428	2	0.1019
7	45	45	44	96.7	44	0.00	1	0.81	62	1	0.0327
8	22	22	22	100.0	22	0.00	1	0.13	26	1	0.0076
9	391	391	362	92.6	362	0.00	1	0.49	515	1	0.1500
10	1,174	1,174	1,082	92.1	1,082	0.00	1	0.51	1,542	1	0.4348
11	95	95	89	94.0	89	0.00	1	0.29	116	1	0.1180
12	197	197	181	91.9	181	0.00	1	0.51	259	1	0.7543
13	367	367	318	86.6	318	0.00	1	0.49	553	2	0.1355
14	440	440	364	82.8	364	0.00	1	0.49	664	2	0.1190
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	3,834	3,834	3,417	89.1	3,417	0.00	1	0.49	5,467	2	0.0844

4. Harvest Structure

(a) Hunter Questionnaire

- The buck ratio in the regular harvest (4.63 males/female) was the highest since 1978 (Table 48).
- The antlerless season yielded fawn/doe ratios ranging from 0.13-1.0 fawns/female (average 0.49/female) with the highest ratio evident during the second component of the split season in WMZ 6 (Table 49).

(b) Check Stations

- Check stations were operated during the November either-sex and antlerless rifle seasons in WMZ 11 and 12 (Table 50).
- The highest proportion of bucks (10.0 bucks/doe) was harvested during the first split of the either-sex season (Table 51). During the second either-sex split only 4.3 bucks/doe were harvested and the adult component of the harvest declined dramatically. Hunters found mature animals more difficult to hunt and may have subsequently became less selective. Fawns comprised a greater proportion of the harvest (33% to 46%) during the antlerless seasons. The yearling age class varied slightly (14% to 20%) between seasons.
- For WMZ 11 and 12 and all seasons combined, the harvest was comprised of 32% fawns, 16% yearlings and 52% adults (Table 52). These percentages are consistent with 1984 and 1985 except for small variations which may be due to changes in licence quotas (either-sex vs antlerless) and bag limits (2 deer antlerless bag limit in 1985).
- The checking station harvest ratios of 7.6 bucks/doe/1.1 fawns (either-sex season) and 0.8 fawns/doe (antlerless season) for WMZ 11 and 12 combined, differ slightly from the hunter questionnaire survey ratios of 7.1 bucks/doe/0.4 fawns (either-sex season) and 0.4 fawns/doe (antlerless season). With small sample sizes this difference is not statistically significant.

Table 50. Sex and age class composition of the mule deer harvest based on check station samples, 1986

```
                              CHKSTN=MENDHAM WMZ 11

                            TABLE OF SEX BY YR_CLASS

SEX       YR_CLASS

FREQUENCY|
PERCENT  |
ROW PCT  |
COL PCT  |     0.5|     1.5|     2.5|     3.5|     4.5|     5.5|     6.5|     8.5|      99|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |     10 |      7 |     11 |      3 |      3 |      2 |      3 |      1 |      1 |     41
         |  12.66 |   8.86 |  13.92 |   3.80 |   3.80 |   2.53 |   3.80 |   1.27 |   1.27 |  51.90
         |  24.39 |  17.07 |  26.83 |   7.32 |   7.32 |   4.88 |   7.32 |   2.44 |   2.44 |
         |  58.82 |  77.78 |  64.71 |  37.50 | 100.00 | 100.00 | 100.00 | 100.00 |   5.26 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |      7 |      2 |      6 |      5 |      0 |      0 |      0 |      0 |     18 |     38
         |   8.86 |   2.53 |   7.59 |   6.33 |   0.00 |   0.00 |   0.00 |   0.00 |  22.78 |  48.10
         |  18.42 |   5.26 |  15.79 |  13.16 |   0.00 |   0.00 |   0.00 |   0.00 |  47.37 |
         |  41.18 |  22.22 |  35.29 |  62.50 |   0.00 |   0.00 |   0.00 |   0.00 |  94.74 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL          17        9       17        8        3        2        3        1       19       79
            21.52    11.39    21.52    10.13     3.80     2.53     3.80     1.27    24.05   100.00


                              CHKSTN=BRAATENS WMZ 12

                            TABLE OF SEX BY YR_CLASS

SEX       YR_CLASS

FREQUENCY|
PERCENT  |
ROW PCT  |
COL PCT  |     0.5|     1.5|     2.5|     3.5|     4.5|     5.5|     6.5|     7.5|      99|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |     25 |     15 |     11 |      9 |      9 |      5 |      1 |      4 |      0 |     79
         |  15.34 |   9.20 |   6.75 |   5.52 |   5.52 |   3.07 |   0.61 |   2.45 |   0.00 |  48.47
         |  31.65 |  18.99 |  13.92 |  11.39 |  11.39 |   6.33 |   1.27 |   5.06 |   0.00 |
         |  50.00 |  65.22 |  47.83 |  40.91 |  52.94 | 100.00 | 100.00 | 100.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |     25 |      8 |     12 |     13 |      8 |      0 |      0 |      0 |     18 |     84
         |  15.34 |   4.91 |   7.36 |   7.98 |   4.91 |   0.00 |   0.00 |   0.00 |  11.04 |  51.53
         |  29.76 |   9.52 |  14.29 |  15.48 |   9.52 |   0.00 |   0.00 |   0.00 |  21.43 |
         |  50.00 |  34.78 |  52.17 |  59.09 |  47.06 |   0.00 |   0.00 |   0.00 | 100.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL          50       23       23       22       17        5        1        4       18      163
            30.67    14.11    14.11    13.50    10.43     3.07     0.61     2.45    11.04   100.00
```

Table 51. Sex and age composition of the mule deer harvest by season type based on check station samples, 1986

1st Either-Sex Season	Fawns		Yearlings		Adults		Sample Size
	M	F	M	F	M	F	
# Animals	1	2	6	1	34	3	= 47
Percent	6%		15%		79%		
buck/doe/fawn			10.0/1/0.8				

2nd Either-Sex Season	Fawns		Yearlings		Adults		Sample Size
	M	F	M	F	M	F	
# Animals	2	3	3	1	10	2	= 21
Percent	24%		19%		57%		
buck/doe/fawn			4.3/1/1.7				

1st Antlerless Season	Fawns		Yearlings		Adults		Sample Size
	M	F	M	F	M	F	
# Animals	23	26	1	14	0	43	= 107
Percent	46%		14%		40%		
buck/doe/fawn			0.01/1/0.9				

2nd Antlerless Season	Fawns		Yearlings		Adults		Sample Size
	M	F	M	F	M	F	
# Animals	6	4	0	6	0	14	= 30
Percent	33%		20%		47%		
buck/doe/fawn			0.0/1/0.5				

Table 52. Sex and age composition of mule deer harvest all seasons combined based on check station samples, 1984-1986

	Zone 11*						1984 Zone 12						Combined Zones					
	Fawns		Yearlings		Adults		Fawns		Yearlings		Adults		Fawns		Yearlings		Adults	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
# Animals	12	13	-	18	0	52	26	24	22	31	31	108	38	37	22	49	31	160
Percent	26%		19%		55%		21%		22%		57%		22%		21%		57%	
Males/Female	0.9		---		---		1.1		0.7		0.3		1.0		0.4		0.2	
Buck/doe/fawn													0.25/1/0.36					

	Zone 11*						1985 Zone 12						Combined Zones					
	Fawns		Yearlings		Adults		Fawns		Yearlings		Adults		Fawns		Yearlings		Adults	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
# Animals	51	59	5	42	-	155	110	100	12	68	44	263	161	159	17	110	44	418
Percent	35%		15%		50%		35%		13%		51%		35%		14%		51%	
Males/Female	0.9		0.1		---		1.1		0.2		0.2		1.1		0.2		0.1	
Buck/doe/fawn													0.12/1/0.61					

	Zone 11						1986 Zone 12						Combined Zones					
	Fawns		Yearlings		Adults		Fawns		Yearlings		Adults		Fawns		Yearlings		Adults	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
# Animals	7	10	2	7	11	23	25	25	8	15	33	39	32	35	10	22	44	62
Percent	28%		15%		57%		34%		16%		50%		32%		16%		52%	
Males/Female	0.7		0.3		0.5		1.0		0.5		0.8		0.9		0.5		0.7	
Buck/doe/fawn													0.64/1/0.80					

*No either-sex rifle season in WMZ 11 in 1984 and 1985

- Field-dressed fawns weighed at check stations showed a mean weight of 51.7 lbs. compared to 47.5 lbs. in 1985. A Duncan's multiple range test indicated no statistically significant difference existed in mean weights between zones or animal sex (Table 53).

5. Archery
   - For all seasons, a total of 948 active bowhunters harvested 247 mule deer on either-sex and antlerless licences in 1986 (Tables 54 and 55). These figures represent an 8% increase in active hunters and a 33% decline in harvest compared with 1985. Harvest was likely affected by wet conditions during September which made access to mule deer range difficult and may have reduced hunter interest.
   - A quota of 400 antlerless licences was offered to archers with 10 antlerless mule deer being harvested by 71 active bowhunters.
   - Hunter-days/animal for archers with either-sex licences increased to 18 in 1986 from 15 in 1985 and 9 in 1984. For the antlerless licence holders the estimated average number of hunter-days/animal was 28 in 1986.
   - Success rates during the either-sex season varied from 22% in combined WMZ 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 to 53.2% in WMZ 9 and 10 combined. In 1986, 50 either-sex archery licences were available for WMZ 12 with a hunter success estimate of 19.3%.
   - Success rates during the archery antlerless season varied from 11.3% in combined WMZ 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, to 14.6% in WMZ 9 and 10 combined to 25.0% in WMZ 12.
   - The regular either-sex harvest structure was 1.74 bucks/doe/0.41 fawns. The antlerless harvest structure was 0.67 fawns/doe.

6. Muzzleloader
   - In 1986, 150 either-sex and 150 antlerless mule deer licences were made available to muzzleloader hunters. Some 262 active muzzleloader hunters harvested 173 mule deer in either-sex and antlerless seasons (Tables 56 and 57).
   - Muzzleloader hunter success was estimated to be 60.5% during the either-sex hunt and 65.9% during the antlerless hunt.

Table 53. Mule deer fawn weights collected at check stations, in southwest Saskatchewan, 1985-1986

WMZ	1985* N	1985* Mean Wt. (lbs.)	1986** N	1986** Mean Wt. (lbs.)	
10	194	46.5	---	---	
11	59	53.6	2 M*** 4 F	54.5 54.3	$\bar{x}$ 54.3
12	90	45.8	15 M 15 F	55.1 47.3	$\bar{x}$ 51.2
Mean Weight All zones and sexes	343	47.5	36	51.7	

* Duncan's multiple range test for variables; difference between mean weights in WMZ 11 ad WMZ 10 and 12 is significant; no difference between sexes.

** Duncan's multiple range test for variables; no difference between zones or sexes.

***M = male; F = female

Table 54. Estimated hunter success and harvest pressure during the either-sex mule deer archery season, 1986

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1986 HUNTING YEAR

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: MULE DEER TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1*	691	694	154	22.2	154	1.38	1	0.41	3,580	23	0.4303
9	139	140	74	53.2	74	3.10	1	0.40	583	8	0.1697
12	47	47	9	19.3	9	1.00	1	0.50	203	22	0.5910
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	877	881	237	27.0	237	1.74	1	0.41	4,367	18	0.0684

* WMZ 1-8, 13, 14, 18-27, 29, 30, 45 & 46

Table 55. Estimated hunter success and harvest pressure during the antlerless mule deer archery season, 1986

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1986 HUNTING YEAR

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: MULE DEER

TYPE OF LICENSE: 1ST ARCHERY ANTLERLESS

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1	35	36	4	11.3	4	0.00	1	2.00	157	40	0.0189
9	32	33	5	14.6	5	0.00	1	0.00	113	24	0.0328
12	4	4	1	34.0	1	0.00	1	1.36	10	8	0.0297
	------	-------	------	-----	------	------	-----	------	------	-------	---------
	71	72	10	14.1	10	0.00	1	0.67	280	28	0.0044

Table 56. Estimated hunter success and harvest pressure during the either-sex mule deer muzzleloader season, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: MULE DEER

TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	HARVEST STRUCTURE FEMALES	HARVEST STRUCTURE YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1	97	97	56	57.3	56	2.18	1	0.73	346	6	0.0416
9	48	48	37	76.3	37	1.00	1	0.23	149	4	0.0434
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	145	145	92	63.6	92	1.55	1	0.46	495	5	0.0078

Table 57. Estimated hunter success and harvest pressure during the antlerless mule deer muzzleloader season, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: MULE DEER

TYPE OF LICENSE: 1ST MUZZLELOADER ANTLERLESS

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1	94	94	61	65.2	61	0.00	1	0.43	244	4	0.0294
9	23	23	20	86.7	20	0.00	1	0.44	70	4	0.0203
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	117	117	81	69.4	81	0.00	1	0.44	314	4	0.0049

- The estimated number of hunter-days/animal for muzzleloaders with either-sex licences was 5 while for antlerless licence holders the average hunter-days/animal was 4.
- Success rates varied from 57.3% in combined WMZ 1 to 8, 13, 14, 18 to 27 , 29, 30, 45 and 46, to 76.3% in WMZ 9 and 10 combined for muzzleloading hunters with regular either-sex licences.
- Success rates varied from 65.2% in combined WMZ 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, to 86.7% for the antlerless licence holders.
- The regular either-sex harvest structure was estimated to be 1.55 bucks/doe/0.46 fawns; antlerless harvest structure was 0.44 fawns/doe.

B. POPULATION STATUS

1. Density Estimates

- Due to a lack of adequate snow cover the only transect survey completed for mule deer was flown in the Cabri Sandhills (WMZ 12). The estimated 1986 population density for WMZ 12 (4.9 deer/km^2; Table 58) represents a 29% increase compared to the 1985 estimate.
- Stratified random block surveys flown in WMZ 6 and WMZ 2 for white-tailed deer also provided some general indicators of mule deer populations (Table 59). Data from the WMZ 6 survey indicated a 48% increase in mule deer although the wide confidence intervals for both surveys preclude any statistically significant inferences for these populations.

2. Population Structure: Helicopter Aerial Survey

- A total of 1,800 mule deer were classified by sex class and antler configuration in the Cabri (WMZ 12), Burstall (WMZ 11), and Great Sandhill (WMZ 9 and 10) complexes during January 1987 (Table 60).
- Buck:doe ratios were down slightly in WMZ 9 from 0.79 males/female in 1985 to 0.61 males/female in 1986. This decline may be reflective of low yearling buck numbers (20% of the male population) in this zone. This age class may be receiving hunting pressure during both the either-sex season and the antlerless season and the low frequency of yearling bucks may be partially attributable to additional hunting

Table 58. Mule deer population estimates in southwestern Saskatchewan, based on transect aerial surveys, 1986-87

Survey Block WMZ	Surveyed Area km^2 (mi^2)	Total Area km^2 (mi^2)	Deer Observed	Density/km^2	Estimated 1986-87	Winter Pop. 1985-86	% Change
Cabri Sandhills (WMZ 12)	46.9 (18.1)	187.8 (72.5)	228	4.9	912	770	+29%

Note: Transect survey flown 1/2 mile apart with two observers on right side for 1/8 mile 100% coverage or 25% coverage on survey block.

Note: Surveys not flown in WMZ ' s 9, 10, and 11 due to insufficent snow cover.

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Table 59. Southwest drainage mule deer population estimates based on stratified random quadrat aerial survey sampling, 1986-87

SURVEY BLOCK	SURVEY AREA (km²)	WMZ	BLOCK POP. EST.±80%	DEER/KM² DENSITY ±80%	PREVIOUS POP. EST. DEER/km² (YEAR)
Eastend	1370	6	970 ± 265 (27%)	0.77 ± 0.20	0.79 ± 0.20 (85-86)
Val Marie**	1119	2	404 ± 288 (71%)	0.23 ± 0.71	0.55 ± 0.83 (83-84)***

* These survey blocks were designed specifically for white-tailed deer and may not accurately reflect mule deer habitat in WMZ 2 and 6.

** This survey was first flown in 1986-87.

***This estimate was derived from data collected from a different survey area which combined Stata A and B data.

Table 60. Sex and age composition of the mule deer population based on post-season helicopter observations, 1984-1986

WMZ	1984 Males/100* Females	1984 Fawns/100 Females	1985 Males/100* Females	1985 Fawns/100 Females	1986 Yearling Males(%)	1986 Teen Males(%)	1986 Mature Males(%)	1986 Does	1986 Fawns	1986 Total (n)	1986 Males/100* Females	1986 Fawns/100 Females
9	59	73	79	72	18 (20)	37 (41)	35 (39)	147	107 =	344	61	73
10	41	84	86	80	88 (31)	111 (39)	87 (30)	343	234 =	863	83	68
11	25	61	47	86	53 (56)	15 (16)	27 (28)	145	99 =	339	66	68
12	25	45	48	73	33 (46)	23 (32)	17 (22)	108	89 =	269	67	82
Mean	37	68	70	78	192 (35)	186 (34)	166 (31)	743	529 =	1815	73	71

*Males - yearling males and teen males and unclassified males

Yearling males - Antler class A, B as per Cooperative Wildlife Management Study
Teen males - Antler class C as per Cooperative Wildlife Management Study
Mature males - Antler class D, E as per Cooperative Wildlife Management Study

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mortality in this age class. However, yearling male to mature male ratios in other zones do not suggest that this phenomenon is widespread. Buck:doe ratios in WMZ 10 were similar to those of 1985, while WMZ 11 and 12 ratios increased from post-season estimates of 0.47 and 0.48 bucks/doe, respectively, in 1985 to 0.66 and 0.67 bucks/doe, respectively, in 1986. Yearling males constituted, 31%, 56%, and 46% in WMZ 10, 11 and 12, respectively.

- For WMZ 9, 10, 11 and 12, fawn:doe ratios averaged 0.71 fawns/female in 1986 which is a slight decline from 0.78 in 1985 and below the 1983 level of 0.95 fawns/doe. Twenty-nine percent of all animals observed were fawns which suggests an acceptable proportion of young animals to promote moderate growth in this population.

3. Population Structure: Cooperative Wildlife Management Study
   - The mule deer population structure in the Grasslands (0.41 males/female/0.79 fawns) was similar to the overall provincial structure of 0.38 males/female/0.76 fawns (Table 61).
   - Comparison of the population structure data derived from the post-hunting season helicopter surveys in WMZ 9, 10, 11 and 12 (0.73 males/female/0.71 fawns), with the pre-season co-operative wildlife data for the Grasslands (0.41 males/female/0.79 fawns) (Table 62), indicates significant differences in the buck:doe ratios. This difference may be the result of a removal of does during the antlerless hunting season or differential observability during the survey.
   - Reproductive indices and sex ratios indicate populations of mule deer in the primary harvest zones are in good condition.

C. 1987 MANAGEMENT OBJECTIVES

- Between 1982 and 1987, the management strategy for mule deer has been to reduce populations throughout primary range by providing more sport hunting opportunity. This reduction was necessary to contend with a rapidly expanding mule deer population and throughout most of the primary mule deer zones, this management strategy has been successful. In 1987 the strategy for mule deer management in the primary zones is one of stabilizing mule deer populations at current levels. In the peripheral zones a slight increase in the mule deer population is desirable.

Table 61. Provincial mule deer population structure based on pre-season field observations, Sept. - Nov. 1986

	Number of Deer							
Eco Zones	Yearling Males(%)	Teen Males(%)	Mature Males(%)	Does	Fawns	Total Sample (n)	Males/100* Females	Fawns/100 Females
GRASSLAND	383 (32)	307 (26)	496 (42)	2987	2362	6487	41	79
FARMLAND	155 (33)	131 (28)	182 (39)	1377	962	2807	34	70
PARKLAND	18 (18)	38 (39)	42 (43)	276	211	585	36	76
FRINGE	5 (71)	0 (0)	2 (29)	19	11	37	37	58
FOREST	2 (11)	5 (26)	12 (63)	31	19	69	61	61
PROVINCE	563 (32)	481 (27)	734 (41)	4690	3565	10033	38	76

*Males = Yearling males and teen males and mature males and unclassified males.

Yearling Males = Antler Class A, B as per Cooperative Wildlife Management Study.
Teen Males = Antler Class C as per Cooperative Wildlife Management Study.
Mature Males = Antler Class D, E as per Cooperative Wildlife Management Study.

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Table 62. Grassland mule deer population structure based on pre-season field observations, Sept. - Nov. 1986

WMZ	Number of Deer Yearling Males(%)	Teen Males(%)	Mature Males(%)	Does	Fawns	Total Sample (n)	Males* / 100 Females	Fawns / 100 Females
1	42 (40)	21 (20)	42 (40)	271	254	630	42	94
2	45 (27)	55 (33)	68 (40)	475	372	1015	36	78
3	2 (15)	8 (62)	3 (23)	34	30	77	38	88
4	36 (31)	37 (32)	43 (37)	339	213	668	34	63
5	10 (23)	18 (41)	16 (36)	130	82	256	32	63
6	39 (33)	32 (27)	46 (39)	286	237	640	41	83
7	21 (33)	13 (20)	30 (47)	265	205	534	25	77
8	10 (29)	11 (32)	13 (38)	64	77	175	53	120
9	18 (30)	14 (23)	29 (48)	87	90	238	72	103
10	24 (29)	16 (20)	42 (51)	122	86	290	67	70
11	8 (44)	4 (22)	6 (33)	34	34	86	53	100
12	7 (37)	3 (16)	9 (47)	49	41	109	39	84
13	37 (26)	31 (22)	74 (52)	418	317	877	37	76
14	83 (44)	38 (20)	67 (36)	395	309	892	48	78
TOTAL	383 (32)	307 (26)	496 (42)	2987	2362	6487	41	79

*Males = Yearling males, teen males, mature males and unclassified males.

Yearling Males = Antler Class A, B as per Cooperative Wildlife Management Study.
Teen Males = Antler Class C as per Cooperative Wildlife Management Study.
Mature Males = Antler Class D, E as per Cooperative Wildlife Management Study.

- Coordinated harvest of the male and antlerless components of the population will allow for maintenance of high buck:doe ratios which will provide the Saskatchewan hunter a good opportunity to harvest mature male animals on the preferred either-sex licence.

1. Regular season quotas will remain at 1986 levels in WMZ 8, 9, 10, 23, 24, 25, 27, 29, 30 and 45; reductions are recommended in WMZ 2, 3, 5, 6, 7, 12, 26 and 27; increases will be seen in WMZ 1, 4, 13, 14, 19 and 46 (Tables 63 and 64).
2. Hunters using muzzleloading rifles will receive an allocation of 150 regular licences (100-WMZ 1 to 8, 13, 14, 18 to 27, 19, 30, 45 and 46; and 50-WMZ 9 and 10 combined).
3. Antlerless quotas have been reduced in all zones except WMZ 1, 7, 8, 11, 19 and 25.
4. The number of antlerless licences allocated to archers has been reduced to 150 (100-WMZ 1 to 8, 13, 14, 18 to 27, 19, 30, 45 and 46; 50-WMZ 9 and 10 combined) to align availability with demand and in the interest of consistency with other primitive weapons seasons (i.e. hunters with muzzleloading rifles).
5. A total of 150 antlerless licences will be available to hunters with muzzleloading rifles (100-WMZ 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46; 50-WMZ 9 and 10 combined).
6. In 1987, 12-15 year old hunters will again be allowed to apply for the antlerless mule deer licences in the computerized draw. This opportunity will be extended to 12-15 year old hunters wishing to apply for antlerless archery licences as well.

Table 63. Mule deer licence quotas, 1984-1986

WMZ	1984			1985				1986					
	Regular Rifle Season		Archery Season	Regular Rifle Season		Archery Season		Regular Rifle Season		Archery Season		Muzzleloader Season	
	Either Sex (1 deer)	Antlerless (1 deer)	(1 deer)	Either Sex (1 deer)	Antlerless (2 deer)	Either Sex (1 deer)	Antlerless (2 deer)	Either sex (1 deer)	Anterless (1 deer)	Either Sex (1 deer)	Antlerless (1 deer)	Either Sex (1 deer)	Antlerless (1 deer)
1	100	—	*	100	75	*	*	100	75	*	*	*	*
2	900	1000	*	1000	1500	*	*	1000	1000	*	*	*	*
3	300	—	*	300	100	*	*	300	75	*	*	*	*
4	100	—	*	75	—	*	*	100	150	*	*	*	*
5	300	200	*	300	300	*	*	300	200	*	*	*	*
6	400	200	*	400	500	*	*	400	500	*	*	*	*
7	300	—	*	300	200	*	*	300	200	*	*	*	*
8	50	—	*	50	50	*	*	50	50	*	*	*	*
9	400	600	**	500	500	*	*	500	500	**	**	**	**
10	700	3000	**	800	3000	**	**	800	1200	**	**	**	**
11	—	200	—	—	450	—	—	50	100	—	—	—	—
12	150	200	50	150	500	50	50	150	300	50	50	*	*
13	400	400	*	400	800	*	*	400	800	*	*	*	*
14	600	600	*	600	1200	*	*	600	500	*	*	*	*
18	—	—	—	—	—	*	*	—	—	*	*	*	*
19	150	—	*	200	-	*	*	200	150	*	*	*	*
20	—	—	—	—	—	*	*	—	—	*	*	*	*
21	—	—	—	—	—	*	*	—	—	*	*	*	*
22	—	—	—	—	—	*	*	—	—	*	*	*	*
23	200	—	*	200	—	*	*	250	—	*	*	*	*
24	200	—	*	200	—	*	*	250	—	*	*	*	*
25	50	—	*	150	—	*	*	200	—	*	*	*	*
26	50	—	*	200	—	*	*	250	—	*	*	*	*
27	50	—	*	150	—	*	*	250	—	*	*	*	*
29	100	—	*	100	—	*	*	150	—	*	*	*	*
30	100	—	*	100	—	*	*	150	—	*	*	*	*
45	50	—	*	50	—	*	*	100	—	*	*	*	*
46	100	—	*	100	-	*	*	150	—	*	*	*	*
TOTAL	5750	6400	150** 600**	6425	9175	600* 150**	100* 150**	7000	5800	800* 150**	200* 150**	100* 50**	100* 50**
			800			800	300			950	400	150	150

* and ** represent combined zones.

Table 64. Mule deer licence quotas, 1987

WMZ	Rifle Regular (1 deer)	Rifle Antlerless (1 deer)	Archery Regular (1 deer)	Archery Antlerless (1 deer)	Muzzleloading Regular (1 deer)	Muzzleloading Antlerless (1 deer)
1	250	250	*	*	*	*
2	900	200	*	*	*	*
3	150	0	*	*	*	*
4	150	150	*	*	*	*
5	200	0	*	*	*	*
6	300	200	*	*	*	*
7	150	200	*	*	*	*
8	50	100	*	*	*	*
9	500	100	**	**	**	**
10	800	600	**	**	**	**
11	50	100	0	0	0	0
12	100	200	50	*	0	0
13	600	0	*	*	*	*
14	800	0	*	*	*	*
18	0	0	*	*	*	*
19	250	250	*	*	*	*
20	0	0	*	*	*	*
21	0	0	*	*	*	*
22	0	0	*	*	*	*
23	250	250	*	*	*	*
24	250	0	*	*	*	*
25	150	0	*	*	*	*
26	200	0	*	*	*	*
27	150	0	*	*	*	*
29	150	0	*	*	*	*
30	150	0	*	*	*	*
45	100	0	*	*	*	*
46	200	0	*	*	*	*
*	0	0	800	100	100	100
**	0	0	150	50	50	50
Total	6850	2600	1000	150	150	150

* Combined Zones
**Combined Zones

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D. 1987 MULE DEER SEASONS

Mule Deer (Archery)	Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 7 - Oct. 17	one mule deer, either sex	– Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (800), 9 and 10 combined (150), 12(50). Archery licences valid only in the archery season. **Note: The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed until Sept. 9.**
	Zones 9, 10 and 12	Sept. 21 - Oct. 3	one mule deer, either sex	
Antlerless Mule Deer (Archery)	Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 7 - Oct. 17	one antlerless mule deer	– Licence quotas (in brackets) for each zone: 1 to 8, 12, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (100), 9 and 10 combined (50). **Note: The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed until Sept. 9.**
	Zones 9, 10 and 12	Sept. 21 - Oct. 3	one antlerless mule deer	
Mule Deer (Muzzleloading Rifles)	Zones 1 to 10, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Oct. 5 - Oct. 17	one mule deer, either sex	– Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (100), 9 and 10 combined (50).
Antlerless Mule Deer (Muzzleloading Rifles)	Zones 1 to 10, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Oct. 5 - Oct. 17	one antlerless mule deer	– Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (100), 9 and 10 combined (50).
Mule Deer	Zones 1, 3 to 8, 11, 12, 19, 23 to 27, 29, 30 and 45, including Elbow Wildlife Management Unit and Cypress Hills (West Block) Provincial Park	Nov. 2 - Nov. 7	one mule deer, either sex	– Licence quotas (in brackets) for each zone: 1(250), 2(900), 3(150), 4(150), 5(200), 6(300), 7(150), 8(50), 9(500), 10(800), 11(50), 12(100), 13(600), 14(800), 19(250), 23(250), 24(250), 25(150), 26(200), 27(150), 29(150), 30(150), 45(100), 46(200). **Note: Primitive weapons only in Saskatchewan Landing Provincial Park.**
	Zone 46	Nov. 9 - Nov. 14	one mule deer, either sex	
	Zones 2, 9, 10, 13 and 14, including Saskatchewan Landing Provincial Park	Nov. 2 - Nov. 5 or Nov. 6 - Nov. 10	one mule deer, either sex	
Antlerless Mule Deer	Zones 1, 4, 6, 7, 8, 11, 12, 19 and 23, including Cypress Hills (West Block) Provincial Park	Nov. 9 - Nov. 14	one antlerless mule deer	– Licence quotas (in brackets) for each zone: 1(250), 2(200), 4(150), 6(200), 7(200), 8(100), 9(100), 10(600), 11(100), 12(200), 19(250), 23(250). – "Antlerless Mule Deer" means a doe or a 1987 fawn. **Note: Primitive weapons only in Saskatchewan Landing Provincial Park.**
	Zones 2, 9 and 10	Nov. 11 - Nov. 14	one antlerless mule deer	

ELK

A. REVIEW OF 1986 HUNTING SEASON

1. Licence Sales*

	1982	1983	1984	1985	1986
Regular (Bulls only)	3020	3187	3698	3240	2819
Special	700	894	784	1085	1241
TOTAL	3720	4081	4482	4322	4060

* Final (June 1) licence sale figures; however all data analysis based on figures available in March and projected to June 1 (see page 4).

2. Hunting Activity and Harvest

(a) Northern Commercial Forest

- With 2,118 active hunters, the regular (antlered animals only) season harvest (excluding WMZ 43 and 53) increased from 240 animals in 1985 to 372 animals in 1986 (Table 65).
- An additional 15 bulls, 23 cows and 15 calves were harvested in WMZ 53 around Prince Albert National Park. This is a special either sex management hunt designed to reduce depredation in the surrounding farmland. The local harvests have traditionally been less than 50 animals annually. The 1986 season provided 1937 hunter-days of recreation.
- Total hunter-days of recreation (excluding WMZ 43 and 53) decreased from 10,430 in 1985 to 8,994 in 1986. This reduction was partially attributable to the cancellation of the late bulls only season in 1986. However, hunter-days remain within the bounds of long-term trends.
- A total of 130 hunters harvested 30 bulls in WMZ 43. A total of 620 hunter-days were generated by the season in this zone which was held in an effort to provide recreation and assist local landowners with depredation control. A low harvest was anticipated for WMZ 43 based on the perception that this population was very mobile and hence difficult to locate and hunt. Hunter-success (23.4%) suggests this was not the case.

Table 65. Estimated hunter success and harvest pressure during the regular elk season, 1986

SPECIES: ELK TYPE OF LICENSE: REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	HARVEST STRUCTURE FEMALES	HARVEST STRUCTURE YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNT DAYS/KM² IN ZONE
43	130	163	30	23.4	30	30.32	1	0.00	620	20	0.0935
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	130	163	30	23.4	30	30.32	1	0.00	620	20	0.0935
48	93	117	27	28.5	27	26.53	1	0.00	447	17	0.1767
49	162	205	27	16.3	27	26.53	1	0.00	766	29	0.3197
50	75	95	8	10.1	8	7.58	1	0.00	385	51	0.1154
53	409	515	53	13.0	53	0.67	1	0.67	1,937	37	0.6987
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	739	932	114	15.4	114	3.33	1	0.67	3,534	31	0.3204
56	809	906	125	15.5	133	132.66	1	0.00	3,536	27	0.7891
57	274	307	53	19.3	53	53.06	1	0.00	1,228	23	0.3732
58	47	53	8	16.0	8	7.58	1	0.00	116	15	0.0515
59	179	201	27	14.8	27	26.53	1	0.00	701	26	0.1181
60	122	136	19	15.5	19	18.95	1	0.00	400	21	0.1021
61	75	83	27	35.6	27	26.53	1	0.00	265	10	0.0873
62	61	68	8	12.4	8	7.58	1	0.00	254	34	0.0573
63	115	129	15	13.2	15	15.16	1	0.00	404	27	0.0814
64	58	64	11	19.8	11	11.37	1	0.00	280	25	0.0787
66	17	19	0	0.0	0	0.00	1	0.00	91	.	0.0081
69	30	34	19	62.2	19	18.95	1	0.00	121	6	0.0157
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	1,788	2,001	311	17.4	318	318.39	1	0.00	7,397	23	0.1301
Total	2,657	3,096	455	17.1	462	--	--	--	11,551	25	--
Total (less 43 & 53)	2,118	2,418	372	20.2	372	--	--	--	8,994	23.7	--

(b) Special Seasons

i. Moose Mountain Park (WMZ 33) (Licence Quota = 100)

  - A telephone survey of elk hunters drawn to hunt in WMZ 33 during 1986 indicated a harvest of 54 animals with a structure of 0.96 bulls/cow/0.39 calves (Table 66).

ii. Fort a la Corne (WMZ 50) (Licence Quota = 275)

  - The estimated harvest was 94 elk based on the hunter questionnaire survey (Table 66).
  - The harvest structure was estimated at 1.5 bulls/cow/0.27 calves.
  - Sixty four per cent of the harvest occurred in the early season versus 36% in the late season.

iii. Porcupine Provincial Forest (WMZ 48, 49, 56, 57) (Licence Quota = 500)

  - The elk harvest was estimated to be 109 animals in 1986 compared with 85 animals in 1985 (Table 66).
  - Hunter success was estimated to be 23.3% based on the hunter questionnaire survey.
  - Hunter-days/animal decreased from 20 in 1985 to 18 in 1986.

iv. Cypress Hills East and Center Blocks (WMZ 6 & 7) (Licence Quota = 100)

  - Hunter questionnaire data indicates that 34 animals were harvested in 1986 with a harvest structure of 1.83 bulls/cow/0.17 calves (Table 66).
  - In 1987 some hunters were reported to have experienced difficulties securing land access due to intense competition for hunting areas.

v. Cypress Hills West Block (WMZ 7) (Licence Quota = 200)

  - Hunter questionnaire data indicates that 92 elk were harvested in this zone during the 1986 sport hunting season (Table 66).
  - Hunter success was estimated to be 46% with a harvest structure of 0.80 bulls/cow/ 0.33 calves.
  - An additional 42 (harvest structure not known) and 122 elk (1.15 bulls/cow/0.5 calves) were harvested by native and Alberta sport hunters, respectively.

Table 66. Estimated hunter success and harvest pressure during the special either-sex elk season, 1986

WMZ	QUOTA	ACTIVE HUNTERS	HARVEST	SUCCESS	HARVEST STRUCTURE BULL/COW/CALF	HUNTER DAYS	HUNTER DAYS/KILL
6	100	98	34	34.8	1.83/1/0.17	420	12
7	200	195	92	47.3	0.80/1/0.33	713	8
33	100	94 (96)*	53 (54)	55.9 (56.2)	1.06/1/0.31 (0.96/1/0.39)	351 (359)	7 (4)
50	275	258	94	36.5	1.50/1/0.27	1787	19
54	50	47 (48)*	24 (19)	51.9 (39.5)	0.20/1/0.20 (0.33/1/0.17)	169 (171)	7 (4)
56	500	466	109	23.3	0.85/1/0.30	1922	18

* Telephone Survey (in brackets)

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vi. Thickwood Hills (WMZ 54) (Licence Quota = 50)

- The results of a telephone survey of hunters who were drawn to hunt elk in zone 54 during the 1986 season indicated that 19 elk were harvested (Table 66).
- Hunter success was estimated to be 37.5% with a harvest structure of 0.33 bulls/cow/0.17 calves.

B. POPULATION STATUS

1. Density Surveys

- Population density surveys were not conducted for elk in the northern commercial forest during the 1986-87 winter.

2. Population Structure: Aerial Surveys

- During December 1986 and January 1987, sex and age surveys were conducted using a fixed-wing aircraft in the eastern Forest and Forest Fringe zones. A total of 1,286 animals were observed during this survey.
- Calves/100 females varied from 47/100 in WMZ 48 to 65/100 in WMZ 57 (Table 67). The average for the northeastern portion of the province (WMZ 48, 49, 56, 57, 59, 60 and 61) was 56 calves/100 cows, which is indicative of good reproduction in these elk herds.
- Males/100 females varied from 0/100 in WMZ 48, to 32 in WMZ 61 (Table 67). Mature bulls form bachelor groups and remain isolated from the cow/calf groups during winter. Due to the solitary nature of these bachelor herds, bulls are more difficult to locate during late winter surveys. The variability in proportions of males in relation to females in the survey results may reflect differential observability arising from this factor. High calf:cow ratios indicate good reproduction, suggesting that present bull:cow ratios are adequate for population maintenance.

Table 67. Sex and age composition of the northern elk population based on post-season aerial survey observations, 1985-1987

WMZ AREA	ANIMALS OBSERVED YEARLING BULLS	MATURE BULLS	COWS	CALVES	TOTAL ANIMALS (N)	1987* BULLS / 100 COWS	CALVES / 100 COWS	1986* BULLS / 100 COWS	CALVES / 100 COWS	1985 BULLS / 100 COWS	CALVES / 100 COWS
48	-	-	15	7	22	0	47	-	-	-	-
49	12	8	151	76	247	13	50	-	-	8	37
56	18	19	293	159	489	13	54	-	-	11	46
57	6	7	132	86	231	10	65	9	44	21	28
59	5	13	73	39	130	25	53	33	67	16	47
60	1	12	-	-	13	-	-	-	50	-	-
61	7	18	79	50	154	32	63	124	33	36	32
TOTAL	49	77	743	417	1286	17	56	17	44	16	38

* Fixed - Winged Aircraft

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3. Southern WMZ: Population Status

   a. Moose Mountain Park (WMZ 33)

      - The population was estimated to be 662 ± 17% in 1987 compared to 521 ± 21% in 1986, 315 ± 44% in 1985, and 463 ± 40% in 1984. Confidence intervals for both the 1987 and 1986 estimates are narrow enough to infer that this population is stable or slowly expanding.

   b. Fort a la Corne (WMZ 50)

      - No survey was conducted during the 1986-87 winter. Population modelling on the basis of an initial population estimate derived from a March 1983 survey suggests that this population may be declining; surveys are planned for the winter of 1987-88 to substantiate the model's predictions and reassess quota allocations and season dates.

   c. Cypress Hills (WMZ 6 & 7)

      - Surveys recorded 193 animals wintering in the Center and East Blocks.
      - A joint survey conducted with Alberta indicated a West Block population of approximately 727 animals in 1987 compared with an estimate of 778 in 1986.

   d. Thickwood Hills (WMZ 54)

      - A survey was flown in WMZ 54 during December 1986. However, hoarfrost conditions over some of the survey area made it difficult to accurately assess age class structure. In total, 69 elk were observed during this survey. Mature bulls were not located during the survey although abundant tracks were observed which implied the presence of more elk in some areas than were observed during the survey.

C. 1987 MANAGEMENT OBJECTIVES

1. Computer modelling of the elk population in the Porcupine Forest (WMZ 48, 49, 56 and 57) indicates a growing population with acceptable numbers of mature bulls. On this basis, no change is recommended in the early regular season for bulls only. An additional 100 special either-sex licences will be made available through the big game draw in 1987 in order to capitalize on the growing population and provide Saskatchewan hunters with increased recreational opportunity.

2. Elk populations are also growing in WMZ 59 where 50 special either-sex licences will be made available to hunters during 1987 in an effort to increase recreation and help reduce local crop depredation.

3. Southern Areas
   a. Moose Mountain Park (WMZ 33)
      - The 1987 population estimates indicate a stable population and the quota will be maintained at 100 licences.
   b. Fort a la Corne (WMZ 50)
      - The current quota of 275 licences will be maintained. Maintenance of status quo will allow managers to fine tune the Fort a la Corne elk population model on the basis of the proposed 1987-88 population survey.
   c. Cypress Hills West Block (WMZ 7)
      - Population estimates suggest a stable population and licence quotas will be maintained at 150 in 1987.
   d. Cypress Hills Center and East Blocks (WMZ 6 & 7)
      - Population estimates suggest a lower population and the quota will be reduced to 150 licences in 1987.

D. 1987 ELK SEASON

Special Elk	Zone 6 and that portion of Zone 7 east of Highway No. 271 and Grid Road No. 615	Oct. 19 - Oct. 24	one elk, either sex	— Licence quotas (in brackets) for each zone: 6 and the east portion of 7 combined (100), the west portion of 7(150), 33(100), 50(275), 48, 49, 56 and 57 combined (600), 59(50).
	That portion of Zone 7 west of Highway No. 271 and Grid Road No. 615, including Cypress Hills (West Block) Provincial Park	Oct. 19 - Oct. 24 or Oct. 26 - Oct. 31	one elk, either sex	
	Zone 33, including Moose Mountain Provincial Park	Oct. 26 - Oct. 31	one elk, either sex	
	That portion of Zone 50 south of Highway No. 55, including Fort a la Corne Wildlife Management Unit	Aug. 31 - Sept. 19 and Nov. 2 - Nov. 14	one elk, either sex	
	Zones 48, 49, 56 and 57, including Greenwater Provincial Park	Oct. 19 - Oct. 24	one elk, either sex	
	Zone 59	Oct. 19 - Oct. 24	one elk, either sex	
Regular Elk (Sask. Residents Only)	Zones 48, 49, 50 (North of Highway 55), 56 to 64, 66 and 69, including Leaf Lake Wildlife Management Unit and the northeast portion of Meadow Lake Provincial Park north of the 17th base line	Sept. 14 - Sept. 26	one antlered elk	— "Antlered Elk" means any elk having an antler or antlers at least 15 centimetres in length as measured from the outside of the skull to the tip. **Note: Watch for signs in Meadow Lake Provincial Park.** **Note: Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit.**
	Zone 53, including Cookson Wildlife Management Unit	Nov. 23 - Dec. 12	one elk, either sex	

PRONGHORN ANTELOPE

A. REVIEW OF 1986 HUNTING SEASONS

- The final licence sales were 3,279 (2,983 rifle and 296 archery) in 1986, however all data analysis is based on figures available in March and projected to June 1 (see page 4).
- The 1986 antelope harvest (rifle and archery) was estimated to be 2,533 (Table 68) compared to 1,717 animals taken in 1985.
- Hunters were afield for 6,282 days in 1986 which represents an increase of 12% over the 1985 figure of 5,595 days.
- The combined harvest structure for the rifle and archery seasons was 2.35 males/doe/0.21 kids (Table 68); estimates for rifle hunters only were 2.41 males/doe/0.19 kids in primary (Grassland) zones and 1.41 males/doe/0.33 kids in peripheral (Farmland) zones (Table 69).
- Rifle hunter success was 87% in 1986 (Table 69), an increase of 23% above the 1985 season.
- Hunter days/animal for rifle hunters declined from 3 days in 1985 to 2 days in 1986.
- Archery hunters required an average of 17 days to harvest an antelope (Table 70) compared to 34 days in 1985.
- An estimated 274 archery hunters harvested 63 antelope with a 23% success rate which was double the 1985 success rate of 11.5%.
- The 1986 antelope harvest increased 22% in comparison with the 1985 season. The 1986 transect survey indicated an overall 14% increase in the estimated population which may partially account for this increased harvest.
- The success rate of rifle hunters was generally high in all zones ranging from 73% in WMZ 14 to 96% in WMZ 19. Zones 2 and 5 combined had the highest number of zone hunters with 716 hunters experiencing a success rate of 90% (Table 69).

B. POPULATION STATUS

- The July 1987 antelope survey consisted of reconnaissance flights to estimate the sex and age composition of antelope herds in traditional survey blocks located in WMZ 2, 3 an 9. In past years, antelope population densities were estimated on the basis of transect surveys

Table 68. Provincial antelope harvest, 1986

SUMMARY TOTALS FOR SPECIES: ANTELOPE

E/ZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
GRASS	2,939	2,939	2,348	79.9	2,348	2.45	1	0.19	5,886	3	0.1095
FARM	211	211	186	88.1	186	1.41	1	0.33	395	2	0.0131
PARK	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FRINGE	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FOREST	0	0	0	0.0	0	0.00	1	0.00	0	.	.
SHIELD	0	0	0	0.0	0	0.00	1	0.00	0	.	.
TOTAL	3,150	3,150	2,533	80.4	2,533	2.35	1	0.21	6,282	2	0.0749

Table 69. Estimated hunter success and harvest pressure during the antelope rifle season, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: ANTELOPE

TYPE OF LICENSE: 1ST REGULAR LICENSE (DRAW)

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
1	47	47	42	88.5	42	2.67	1	0.17	88	2	0.0105
2	716	716	641	89.5	641	3.36	1	0.19	1,267	2	0.1191
3	574	574	491	85.5	491	2.40	1	0.28	1,103	2	0.2568
4	51	51	47	91.2	47	2.00	1	0.44	67	1	0.0082
6	46	46	43	92.5	43	4.83	1	0.33	81	2	0.0193
7	189	189	150	79.2	150	1.89	1	0.22	343	2	0.1811
8	142	142	128	90.5	128	2.89	1	0.11	208	2	0.0613
9	386	386	332	86.0	332	2.10	1	0.16	713	2	0.2076
10	124	124	106	85.5	106	2.72	1	0.22	205	2	0.0577
12	190	190	159	83.9	159	1.67	1	0.08	327	2	0.9502
14	200	200	147	73.3	147	1.27	1	0.11	384	3	0.0688
	2,665	2,665	2,285	85.7	2,285	2.41	1	0.19	4,785	2	0.6736

ECOLOGICAL DIVISION: FARMLAND

SPECIES: ANTELOPE

TYPE OF LICENSE: 1ST REGULAR LICENSE (DRAW)

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
19	49	49	47	96.3	47	1.20	1	0.40	74	2	0.0081
23	13	13	11	85.7	11	0.00	1	0.00	25	2	0.0043
24	49	49	44	89.7	44	1.67	1	0.22	90	2	0.0187
25	49	49	46	94.1	46	2.38	1	0.63	95	2	0.0163
26	51	51	38	73.5	38	1.75	1	0.38	111	3	0.0246
	211	211	186	88.1	186	1.41	1	0.33	395	2	0.

Table 70. Estimated hunter success and harvest pressure during the antelope archery season, 1986

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: ANTELOPE

TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
1	274	274	63	23.0	63	4.67	1	0.17	1,101	17	0.1323
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	274	274	63	23.0	63	4.67	1	0.17	1,101	17	[illegible]

within these survey blocks. The 1987 survey was abbreviated to sex and age composition estimates on the basis of field reports indicating excellent population levels.

- Based on these surveys the kid:doe ratios range from 0.83 to 1.10 kids/doe (Table 71). With all survey blocks combined the mean ratio of 0.96 kids/doe is 14% higher than 1986 (0.84) and is 35% above the long term average (1968-1986) of 0.71 kids/doe (Table 72). Buck:doe ratios are 33% higher than in 1986 and yearling bucks were found to constitute 37% of the male sample in 1987.
- Excellent reproduction followed the mild 1986-87 winter and ideal spring fawning conditions prevailed with no severe weather to reduce post-partum fawn survival. Adequate spring and summer rainfall has resulted in good to excellent range conditions throughout southwestern Saskatchewan.
- Population densities estimated by transect aerial surveys in 1984, 1985 and 1986 demonstrated a progressive increase in antelope numbers on the southwest Saskatchewan survey blocks. The 1987 sex and age survey and field reports suggest the provincial antelope population is continuing to increase slowly.
- Of particular interest is the variation of kid/mature doe (+2 years) ratios between 1983 and 1987 (Table 73). If yearling females (using the procedure of identifying yearling bucks and assuming the same number of yearling females) are excluded, the ratio of 1.05 kids/doe in 1983 declined dramatically in 1984 (0.93 kids/doe) and 1985 (0.83 kids/doe) and then rebounded in 1986 (1.11 kids/doe) and 1987 (1.26 kids/doe) under ideal spring fawning conditions. These ratios suggest that the 1984 and 1985 summer droughts in southwestern Saskatchewan may have had a major impact on productivity and be partially accountable for overall kid/doe ratios being below the long term average (Table 72).

C. MANAGEMENT OBJECTIVES

- The antelope population in Saskatchewan has been increasing over the last few years as a result of relatively mild winters and years of good to excellent reproduction.

Table 71. Sex and age composition of antelope herds observed during aerial surveys, July 1987

SURVEY* BLOCK	YEARLING MALES	ADULT MALES	YEARLING** FEMALES	ADULT FEMALES	KIDS	TOTAL ANIMALS (n)	KIDS: DOE	BUCKS: DOE	KIDS:*** ADULT DOE
2a	38	68	38	164	223	531	1.10	0.52	1.36
2b	25	36	25	59	80	225	0.95	0.73	1.36
3a	35	55	35	205	228	558	0.95	0.38	1.01
9a	71	128	71	115	155	540	0.83	1.00	1.35
Total	169	287	169	543	686	1854	0.96	0.64	1.26

* These survey blocks represent areas that were traditionally censused during the transect aerial survey.

** Since yearling females cannot be distinguished from adult females during aerial surveys, this age category is defined using the procedure of identifying yearling males and assuming the same number of yearling females in the total female segment of the observed population.

*** Adult does represent mature animals 2 years of age and older.

Table 72. Antelope kid:doe ratios estimated by July aerial surveys, 1981-1987

WMZ	1981	1982	1983	1984	1985	1986	1987
1	0.71	0.76	0.50	N/A	0.25	---	---
2	0.63	0.46	0.86	0.52	0.58	0.83	1.06
3, 7, 8	0.71	0.51	0.59	0.51	0.61	0.88*	0.95*
6	0.53	0.12	2.10	0.44	0.61	---	---
9, 10	0.86	0.50	0.88	0.71	0.70	0.78**	0.83**
11-14	0.61	0.76	1.22	0.60	0.97	---	---
19, 22, 24, 29	0.56	0.77	---	---	---	---	---
26	0.80	0.48	0.68	0.63	0.64	---	---
Average	0.69	0.51	0.85	0.56	0.63	0.84	0.96

Provincial kid:doe ratios from July aerial surveys, 1965-1980:

1965	1966	1967	1968	1969	1970	1971	1972	1973
0.54:1	0.85:1	0.82:1	0.74:1	0.87:1	0.77:1	0.70:1	0.60:1	0.68:1

1974	1975	1976	1977	1978	1979	1980
0.56:1	0.64:1	0.81:1	0.65:1	0.74:1	0.90:1	0.68:1

* Represents the kid:doe ratio from WMZ 3 only.
**Represents the kid:doe ratio from WMZ 9 only.

Table 73. Antelope Kid:Mature Doe (+2 yrs) ratios estimated by July aerial surveys, 1983-1987*

	Yearling Males	Adult Males	Yearling** Females	Adult Females	Kids	Kids:Mature Does
1983	90	165	90	467	492	1.05
1984	211	190	211	502	465	0.93
1985	95	164	95	476	394	0.83
1986	53	78	53	221	186	1.11
1987	169	287	169	543	686	1.26

* Includes data from only those survey blocks where yearling males were segregated by observers.

** Yearling females are distinguished using the procedure of identifying yearling males and assuming the same number of yearling females in the female segment of the observed population.

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- Landowners throughout the antelope range (Grassland and Farmland zones) have expressed concern about depredation on field crops. This problem is one that the department will need to take into consideration in future management strategies. The high population densities in some zones may be contributing to depredation problems.
- It appears that antelope are attracted to agricultural produce during the fall, winter and spring periods where crops are planted in close proximity to wintering areas. Mild winters with very little snow make this new growth attractive and available to large herds of antelope.
- The species population objectives set by the department for the mid-1980's are presently being met but hunting demand still exceeds the supply of animals. Quotas have been increased annually in response to population growth but the large number of licence applicants suggest hunting demand may remain unsatisfied for this species in coming years.

D. 1987 ANTELOPE SEASON

- An increase of 500 either-sex licences is warranted in licence quota allocations for the 1987 antelope rifle season. The total quota of 3475 licences, available in WMZ 1 to 14, 19 and 23 to 26, represents a 17% increase from 1986 allocation levels (Table 74). The quota for antelope archery licences in WMZ 1 to 15, 18, 19 and 23 to 26 remains at 300 for 1987.
- The 1987 rifle season has been extended to 15 days in the period between October 29 and November 14. The extra days are designed to accommodate those antelope hunters who also hold a mule deer licence and wish to hunt both species during a single hunting trip to southwest Saskatchewan. In 1986, 75% of all antelope hunters held an antlerless or either-sex mule deer licence (52% held either-sex mule deer licences in the first split season) and would have preferred the option to hunt both species during the same week. Since antelope licences are set on the basis of quotas, and success rates presently exceed 85%, there is little danger of overharvesting the population. In addition hunters will be better distributed over the 2½ week period resulting in fewer landowner-hunter conflicts.

Table 74. Antelope licence quotas, 1985-1987

WMZ	REGULAR 1985	 1986	 1987	ARCHERY 1985	 1986	 1987
1	50	50	50	WMZ's 1-14, 19,23-26(300)	WMZ's 1-15, 18,19, 23-26 (300)	WMZ's 1-15, 18,19, 23-26 (300)
2 & 5	2(600) 5(150)	750	850			
3	600	600	650			
4	100	50	50			
6	50	50	75			
7	200	200	250			
8 & 11	150	150	200			
9	350	400	500			
10	100	125	175			
12 & 13	200	200	225			
14	200	200	225			
19 & 23	50	50	75			
24	50	50	50			
25	50	50	50			
26	50	50	50			
Total	2950	2975	3475	300	300	300

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- Some antelope bucks will have shed their horn sheaths by the first week in November. Hunters wishing an opportunity to harvest a buck with horns will be advised to hunt early in the season via the 1987 Hunting and Trapping Guide.

BLACK BEAR

A. REVIEW OF 1986 HUNTING SEASON

1. Licence Sales

- Total first licence sales were 4,813 compared to 4,392 in 1985.
- There were 589 second bear licences issued in 1986 compared to 344 in 1985.
- In addition, 2,489 free bear permits valid for WMZ 58-61 for the fall bear season were obtained by 1,564 hunters.
- All data analysis, however, is based on licence sale figures available in March and projected to June 1 (see page 4).

2. Hunting/Harvest

- The provincial harvest was estimated to be 2,391 animals compared to 1,039 recorded in 1985 for first, second and free licence holders (Tables 75 to 80).
- Hunter success was estimated to be 37% for both first and second licence holders compared to 26% and 16% respectively in 1985.
- Bear hunting supplied an estimated 25,732 hunter days of recreation compared to 20,922 in 1985.
- Forty four percent of the harvest occurred during the fall bear season compared to 30% in 1985.
- The provincial harvest structure was 2.19 boars/sow/0.48 cubs.

B. POPULATION STATUS

- Field reports suggest the bear population remains high.
- Bear numbers should be comparable to 1986 levels.

C. 1987 MANAGEMENT OBJECTIVES

1. In agricultural Saskatchewan, Wildlife Management Zones 1-36, 38-41 and 44-47 may be hunted for bear at any time of year without a licence, in order to reduce depredation problems in bee yards and bear-human interactions.

Table 75. Provincial bear harvest, 1986

EZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
Grass	0	0	0	0.0	0	0.00	1	0.00	0		
Farm	0	0	0	0.0	0	0.00	1	0.00	0		
Park	208	248	93	44.9	93	3.19	1	0.69	1,015	11	0.0400
Fringe	950	1,071	460	48.4	460	1.42	1	0.27	4,214	9	0.1606
Forest	5,235	5,697	1,810	34.6	1,810	2.48	1	0.56	20,275	11	0.1227
Shield	57	60	28	48.1	28	0.91	1	0.00	227	8	0.0013
Total	**6,450**	**7,076**	**2,391**	**37.1**	**2,391**	**2.19**	**1**	**0.48**	**25,732**	**11**	**0,0645**

Table 76. Parkland, Fringe and Northern Shield 1st regular bear licence harvest, 1986

ECOLOGICAL DIVISION: PARKLAND
SPECIES: Bear TYPE OF LICENSE: 1st Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
37	99	120	53	53.3	53	4.00	1	0.50	607	12	0.0537
42	12	14	0	0.0	0	0.00	1	0.00	48		0.0065
43	79	96	29	36.4	34	2.00	1	0.50	304	9	0.0459
	=====	======	=====	=======	=====	====	==	====	====	======	======
	190	**230**	**82**	**42.9**	**86**	**3.00**	**1**	**0.50**	**960**	**11**	**0.0379**

ECOLOGICAL DIVISION: FOREST FRINGE
SPECIES: Bear TYPE OF LICENSE: 1st Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
48	110	125	53	47.9	58	1.0C	1	0.40	587	10	0.2319
49	110	125	34	30.5	34	1.33	1	0.00	376	11	0.1569
50	271	307	120	44.2	120	0.91	1	0.36	1,362	11	0.4087
51	38	43	19	50.3	19	3.00	1	0.00	161	8	0.0563
52	21	24	14	67.9	14	2.00	1	0.00	105	7	0.0362
53	119	134	77	64.6	86	2.40	1	0.20	499	6	0.1801
54	85	96	29	33.9	34	33.56	1	0.00	480	14	0.0843
55	85	96	53	62.2	53	0.67	1	0.17	224	4	0.0597
	======	=====	=====	=======	=====	=====	==	===	=====	=====	======
	839	**949**	**398**	**47.4**	**417**	**1.47**	**1**	**0.25**	**3,794**	**9**	**0.1446**

ECOLOGICAL DIVISION: NORTHERN SHIELD
SPECIES: Bear TYPE OF LICENSE: 1st Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
74	9	10	5	52.8	5	0.00	1	0.00	37	8	0.0008
75	23	24	5	21.1	10	1.00	1	0.00	105	11	0.0019
76	18	19	5	26.4	10	1.00	1	0.00	60	6	0.0008
	===	=====	====	=======	====	====	==	====	=====	====	======
	50	**53**	**14**	**28.8**	**24**	**0.67**	**1**	**0.00**	**202**	**8**	**0.0011**

Table 77. Forest 1st regular bear licence harvest, 1986

ECOLOGICAL DIVISION: FOREST
SPECIES: Bear TYPE OF LICENCE: 1st Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
56	653	719	211	32.3	216	1.67	1	0.33	2,696	12	0.5704
57	348	384	144	41.3	144	3.50	1	0.50	1,383	10	0.4180
58	109	120	10	8.8	10	9.59	1	0.00	362	38	0.1615
59	549	604	216	39.3	216	3.00	1	0.50	2.325	11	0.3918
60	183	201	38	21.0	38	2.50	1	0.50	862	22	0.2201
61	78	86	38	48.9	38	38.36	1	0.00	381	10	0.1254
62	87	96	24	27.5	24	4.00	1	0.00	409	17	0.0923
63	118	129	29	24.5	29	5.00	1	0.00	522	18	0.1052
64	78	86	24	30.6	24	14.38	1	9.59	309	13	0.0867
65	52	58	19	36.7	19	3.00	1	0.00	136	7	0.0209
66	183	201	86	47.2	91	5.33	1	0.00	640	7	0.0567
67	431	475	211	48.9	216	2.50	1	0.25	1,947	9	0.2244
68	170	187	58	33.9	58	3.00	1	0.00	544	9	0.1308
69	174	192	72	41.3	72	2.50	1	0.25	566	8	0.0730
70	52	58	19	36.7	19	3.00	1	0.00	307	16	0.0361
71	9	10	0	0.0	0	0.00	1	0.00	19		0.0011
72	22	24	14	66.0	14	1.00	1	1.00	72	5	0.0039
73	35	38	10	27.5	10	1.00	1	0.00	158	17	0.0034
	======	======	=======	=======	=======	======	===	=====	=======	=======	=======
	3,332	**3,668**	**1,223**	**36.7**	**1,237**	**2.89**	**1**	**0.34**	**13,639**	**11**	**0.0825**

Table 78. Parkland, Forest Fringe and Northern Shield 2nd regular bear licence harvest, 1986

ECOLOGICAL DIVISION: PARKLAND
SPECIES: Bear TYPE OF LICENSE: 2nd Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
37	7	7	0	0.0	0	0.0	1	0.00	32	.	0.0028
43	11	11	7	64.7	7	3.57	1	3.57	23	3	0.0035
	====	====	====	======	====	====	==	====	=====	=====	======
	18	**18**	**7**	**38.8**	**7**	**3.57**	**1**	**3.57**	**55**	**8**	**0.0022**

ECOLOGICAL DIVISION: FOREST FRINGE
SPECIES: Bear TYPE OF LICENSE: 2nd Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
48	3	4	0	0.0	0	0.00	1	0.00	14	.	0.0056
49	16	18	4	22.0	4	0.00	1	3.57	77	22	0.0321
50	29	32	11	36.6	11	0.00	1	0.50	70	7	0.0209
51	6	7	0	0.0	0	0.00	1	0.00	29	.	0.0100
52	3	4	0	0.0	0	0.00	1	0.00	4	.	0.0012
53	26	29	18	68.7	18	1.50	1	0.00	89	5	0.0322
54	16	18	11	66.0	11	2.00	1	0.00	109	10	0.0191
55	10	11	0	0.0	0	0.00	1	0.00	29	.	0.0076
	====	====	====	======	=====	=====	==	====	=====	====	======
	110	**121**	**43**	**38.8**	**43**	**1.00**	**1**	**0.40**	**420**	**10**	**0.0160**

ECOLOGICAL DIVISION: NORTHERN SHIELD
SPECIES: Bear TYPE OF LICENSE: 2nd Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
74	4	4	0	0.0	0	0.00	1	0.00	18	.	0.0004
75	4	4	4	97.0	4	3.57	1	0.00	7	2	0.0001
	====	====	====	=====	====	====	==	====	=====	=====	======
	7	**7**	**4**	**48.5**	**4**	**3.57**	**1**	**0.00**	**25**	**7**	**0.0001**

Table 79. Forest 2nd regular bear licence harvest, 1986

ECOLOGICAL DIVISION: FOREST
SPECIES: Bear TYPE OF LICENSE: 2nd Regular License

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
56	64	68	18	27.7	18	1.50	1	0.00	245	14	0.0518
57	37	39	11	28.8	11	0.00	1	0.50	123	12	0.0372
58	7	7	4	52.7	4	0.00	1	0.00	25	7	0.0111
59	27	29	11	39.5	14	1.00	1	2.00	73	5	0.0123
60	10	11	4	35.1	4	0.00	1	0.00	62	18	0.0160
61	3	4	4	100.0	4	3.57	1	0.00	14	4	0.0047
62	3	4	4	100.0	4	3.57	1	0.00	4	1	0.0008
63	14	14	4	26.4	4	3.57	1	0.00	36	10	0.0072
64	10	11	7	70.3	7	0.00	1	0.00	57	8	0.0160
65	7	7	7	100.0	7	1.00	1	0.00	18	3	0.0027
66	14	14	0	0.0	4	3.57	1	0.00	139	39	0.0123
67	78	82	32	41.3	36	2.00	1	0.33	323	9	0.0373
68	14	14	7	52.7	7	7.14	1	0.00	29	4	0.0069
69	30	32	18	58.6	18	1.50	1	0.00	123	7	0.0159
70	14	14	7	52.7	7	1.00	1	0.00	46	7	0.0055
72	3	4	0	0.0	0	0.00	1	0.00	11	.	0.0006
73	3	4	4	100.0	4	3.57	1	0.00	11	3	0.0002
	=====	=====	=====	======	======	=====	===	====	======	======	=======
	339	**357**	**139**	**41.1**	**150**	**1.38**	**1**	**0.25**	**1,339**	**9**	**0.0081**

Table 80. Free bear licence harvest, 1986

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER DAYS/ ANIMAL	HUNTER DAYS/KM2 IN ZONE
						MALES	FEMALES	YOUNG			
58	350	374	98	28.1	98	3.00	1	1.00	1,087	11	0.4842
59	736	787	216	29.4	216	1.40	1	2.00	2,479	11	0.4177
60	276	295	59	21.4	59	4.00	1	1.00	979	17	0.2500
61	202	216	49	24.3	49	1.00	1	0.50	752	15	0.2475
	======	======	======	=======	=====	======	===	====	=====	=====	======
	1,564	**1,672**	**423**	**27.0**	**423**	**1.90**	**1**	**1.40**	**5,297**	**13**	**0.3500**

2. Bears are implicated as significant predators of neonatal moose calves during the spring months in WMZ's 58-61. Calf mortality due to black bears has been documented to exceed 50% in some areas. At this level, depredation can limit population growth and the subsequent availability of a harvestable supply of moose. Moose calf recruitment is low in a number of other WMZ's, but the relative significance of black bear predation compared to other calf mortality factors has not yet been established. **Bear hunting regulations permit the harvest of one bear per licence (maximum two licences/hunter) during the spring season in WMZ 42, 43, 48-76. To encourage additional bear hunting, a person hunting bear in WMZ 58-61 during the spring season may obtain two free bear seals (limit one bear either-sex/seal) with each valid bear licence. During the fall season, each holder of a valid big game licence in WMZ 58-61 may also receive two free bear seals (maximum of two seals/hunter).**

D. 1987 BEAR SEASONS

April 13 - June 13
Wildlife Management Zones 37, 42, 43 and 48 to 69 including Fort a la Corne Wildlife Management Unit, Nipawin Provincial Park and the Bronson Recreation Site (Licence required)

April 27 - June 27
Wildlife Management Zones 70 to 76. (Licence required).

April 13 - May 30
Duck Mountain, Greenwater and Meadow Lake Provincial Parks. (Licence required)

April 27 - May 30
Lac La Ronge and Clearwater Provincial Parks. (Licence required)

One bear, either sex, with each of first and second licences

Note: Additional Free Bear Seals available for zones 58 to 61

In Wildlife Management Zones 1 to 36, 38 to 41 and 44 to 47 bears may be hunted at any time of year without licence, subject to the Wildlife Regulations.

Bear (Sask. Residents, Canadian Residents and Non residents)	Zones 37, 42, 43 and 48 to 76, including Cookson, Horsehide Lake and Leaf Lake Wildlife Management Units	Aug. 24 - Oct. 17	two bear, either sex; separate licences required	– Unused spring bear licences are valid in the fall season. **Note: A person hunting in Zones 58 to 61 during an August, September or October big game season may obtain two free bear seals. One bear, either sex, can be taken per seal while hunting under a valid big game licence. Once the big game licence has been filled, the free bear seals are no longer valid.** – Zones 58 to 61 free bear seals are available at **department** offices only
	Clearwater, Lac La Ronge, Meadow Lake, Nipawin and Duck Mountain Provincial Parks; and Bronson Forest Recreation Site	Sept. 8 - Oct. 17	two bear, either sex; separate licences required	
	Fort a la Corne Wildlife Management Unit only	Sept. 21 - Oct. 17	two bear, either sex; separate licences required	

WOODLAND CARIBOU

A. REVIEW OF 1986 HUNTING SEASON

- In 1986 only WMZ 70 to 75, including Lac La Ronge Provincial Park, were open to woodland caribou hunting. All other zones were closed after the 1985 season because of the department's concern over low populations.
- Licence sales which have ranged between 136 and 152 licences in the past 5 years remained at 128 licences in 1986 despite closure of many southern zones (Table 81). Resident hunters comprised 90% of the total licence sales.
- The 1986 harvest was estimated to be 45 animals (38% success) compared to 23 to 35 caribou harvested by sport hunters in recent years, and provided 516 days of hunting recreation (Table 81).

B. POPULATION STATUS

- Concern for caribou populations stems from forestry road development and forest harvest practices which not only remove habitat but also allow sport and Indian hunters easier access to the caribou.
- Overall hunter pressure is very light but evidence exists to suggest that hunter pressure may be eliminating or greatly reducing local herds.
- During the 1985-86 winter, aerial surveys were designed and flown in an attempt to estimate caribou densities (Table 82). Data collected from the 2420 km^2 Weyakwin study area suggested that caribou densities were 0.02 caribou/km^2. These densities are significantly lower than the 0.14 caribou/km^2 reported from the Dore Lake area in 1960.
- In 1986-87 aerial surveys were again flown on the Weyakwin, Hanson and Attitti Lake survey blocks and on the newly designed Sled Lake block. Surveys were carried out during the December-January time period when herd groups are larger and mature bulls remain associated with the main herds. The number of observations of caribou and caribou activity areas increased on all the survey blocks, but the overall density estimate remained unchanged at 0.02 caribou/km^2 (Table 82).
- Sex and age data from the survey effort was inconclusive due to the low sample sizes and difficulty in distinguishing yearling bulls from cows by antler development (Table 83).

Table 81. Estimated hunter success and harvest pressure during the woodland caribou season, 1982-1986.

Licence Sales	1982	1983	1984	1985	1986*
Saskatchewan Residents	136	152	182	134	115
Canadian Residents	***	***	***	4	5
Non-residents	***	***	***	14	8
Total Sales	136	152	182	152	128
Harvest	35	27	23	24	45**
% Success	28%	13%	15%	19%	38%**
Hunter Days	256	232	512	420	516**

* Only WMZ 70 to 75, including Lac La Ronge Provincial Park opened to hunting.

** Estimates based on a separate questionnaire survey sent to all 128 licence holders in June 1987. The response rate was 58%; 68 active hunters (92% of the respondents reported hunting activity) reported a harvest of 26 caribou and spent 298 recreation days (4.4 days/active hunter in the field). The harvest and hunt activity information was then extrapolated to arrive at the 1986 provincial estimates.

*** Canadian and non-resident licence sales are included in the Saskatchewan resident figures.

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Table 82. Woodland caribou population estimates based on stratified transect aerial surveys, 1985-1987

Survey Block	1985-86			1985-86			
	Observed Caribou	Projected Estimate	Activity Areas	Observed Caribou		Projected Estimate	Activity Areas
Weyakwin	16 Feb. 24-25 20 Mid- April	40	5	57-60 14 grps $\bar{x}$ = 4.3	Dec 3-6 & 11-12	57-60	6
Hanson	8 Early March	40	5	45 8 grps $\bar{x}$ = 5.6	Jan 7-10	54	6
Attitti	15 Late March	20	2	27 4 grps $\bar{x}$ = 6.8	Jan 7-10	54	6
Sled	Winter 1959-60 17 grps $\bar{x}$ = 5.4	--	-	11 2 grps $\bar{x}$ = 5.5	Jan 23	20-30	5

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Table 83. Sex and age composition of the woodland caribou population based on post-season helicopter observations, 1986-87

Survey Block	Males	Females*	Calves		Sample Size	Ratio Males/1 Female/Calves
Weyakwin	13	33	9	=	55	0.39/1/0.27
Hanson	9	27	9	=	45	0.33/1/0.33
Attitti	6	10	1	=	17	0.60/1/0.10
Sled	4	4	3	=	11	1.00/1/0.75

*Probably includes yearling males

003

C. 1987 MANAGEMENT OBJECTIVES

- Based on aerial surveys and sighting reports, serious consideration was given to closing the entire woodland caribou season in 1986. However, the department limited the 1986 closure to WMZ's 58, 59, 61 to 66 and 69, including Nipawin Provincial Park, in order to accommodate northern outfitters who had already booked clients for the 1986 season. In view of the low densities, however, a complete closure of all zones in 1987 is warranted until caribou populations improve significantly.
- The department's intention to close the woodland caribou season in 1987 was printed in the 1986 Hunting and Trapping Guide, explained in detail to the Northern Saskatchewan Outfitters Association and announced at the Saskatchewan Wildlife Federation Convention in February 1987.
- Despite the closure, it is the department's intention to continue and expand the existing caribou study during the 1987-88 winter in order to investigate factors contributing to their low numbers, determine densities in other zones and project a provincial caribou population estimate based on reliable data. Upon completion of this study, the future of woodland caribou hunting in the province will be reviewed.

D. 1987 WOODLAND CARIBOU SEASON

- There will be no woodland caribou season in Saskatchewan for 1987.

GAME BIRDS

GENERAL

HUNTING REGULATIONS

The 1986 and 1987 game bird hunting seasons and bag limits are outlined in Appendices 6 and 7, respectively. Season dates and bag limits from the recent past are presented in Appendix 8(a-f). Appendix 9 illustrates the 37 former game management zones, established in 1975 and used until 1983. Appendix 10 illustrates the 76 wildlife management zones used since 1984.

DATA COLLECTION TECHNIQUES

Licence Sales

Licence sales are tabulated by the Revenue Section, Administrative Services Branch of Saskatchewan Parks, Recreation and Culture (former Saskatchewan Parks and Renewable Resources), using licence returns from vendors and Department offices.

1986 Saskatchewan Game Bird Hunter Survey

Twenty thousand (20,000) of the 38,243 resident game bird hunters from 1985 were randomly selected to receive the 1986 Hunter Survey, using 1985 licence stubs. These resident hunters were mailed a survey form (Appendix 11) on September 29, 1986. Hunters returned 1,921 (9.6%) of the surveys by November 27. On December 5, a follow up letter (Appendix 12) and another copy of the questionnaire were mailed to all non-respondents (90% of original mailing). The total response by the February 6, 1987 cut off date for receipt of resident returns was 40.6%. The return rate for the 1985 survey was 36%, the 1984 survey 38%, for 1983, 39%, for 1982, 43% and for 1981, 48%.

In addition, 1,500 Canadian resident bird hunters and 1,500 non-resident hunters (primarily U.S.A.) were sampled using the 1986 licence stubs. Non-resident questionnaires were mailed in December and no second mailing was conducted. Total usable responses and expansion factors used in computer analysis were as follows:

	Total Usable Responses		Expansion Factors	
	1986	1985	1986	1985
Saskatchewan Residents	5,800	4,733	7.01	7.88
Canadian Residents	503	439	4.10	4.79
Non Residents	495	523	7.29	6.43

The returned questionnaires were edited by the Statistics and Evaluation Section of Communications Branch and keypunched by Administrative Services Branch. Don Fowler, a Saskatoon consultant conducted the computer analysis of the data. Computer printouts were available March 5, 1987 and were used extensively to write this report.

Wing Collection

A total of 2,769 wings were collected from hunter-bagged upland game birds in the fall of 1986 to derive population age-structures, from which reproductive success can be inferred. The 1986 sample doubled the 1,363 wings collected in 1985. Conservation Officers collected wings from hunters encountered in the field and enlisted the assistance of wildlife organizations to obtain samples. For the seventh consecutive year, individual and group awards (Champion Chicken Plucker) for the largest species collection provided additional incentive to the officers. Wildlife Branch staff collected wings on an incidental basis.

Experienced Wildlife Branch staff (M. Hlady and F. Beek) aged the wings according to primary feather eruption and wear.

Population Surveys

Upland game bird populations were surveyed between April 7 and May 15, 1987 by Wildlife Branch staff and Conservation Officers. The data were compiled and analysed by the Wildlife Branch.

1986 LICENCE SALES

A total of 41,317 Saskatchewan game bird hunting licences were sold to provincial residents in 1986, up 8% from 1985 but 22% below the 10 year average of 52,830 (Table 84). The perception of poor duck hunting opportunity is believed to have been partially responsible for the depressed sales. Licence sales to other Canadians (2,158) were down by 1% and non-residents of Canada (3,731) up by 7%, producing a total of 47,206 licences sold. From 1983 to 1986 Saskatchewan residents did not require a separate licence to hunt cock pheasants.

MIGRATORY BIRDS

INTRODUCTION

The Canadian Wildlife Service (CWS) is primarily responsible for management of migratory birds, although in Saskatchewan they are managed in consultation with the provincial authority. CWS collects most of the prerequisite data. Their migratory game bird hunter survey is complemented by the Saskatchewan Game Bird Hunter Survey (Appendix 11), the 1986 results of which are reported herein.

From 1979 to 1984, stabilized duck regulations were in effect. With a daily bag limit of eight birds those regulations were considered liberal. The 6-year framework of stabilized duck regulations ended in 1985 when bag limits were reduced to four birds per day. Bag limits were relaxed in 1986, providing for six ducks per day of which only four could be mallards. Additionally, the duck season in southern Saskatchewan was delayed to September 15. These measures were taken to effect a 25% reduction in mallard harvest from that expected under stabilized regulations. The 1986 Saskatchewan mallard harvest displayed an increase of 12.5% over 1985, and was estimated to be 36.4% below what would have occurred during stabilized regulations.

Goose hunting regulations have remained stable except for calendar adjustments.

1986 HUNTING ACTIVITY

Waterfowl hunting is the main component of Saskatchewan bird hunting, although the number of Migratory Game Bird permits sold in the province has declined in recent years. There were 37,692 federal Migratory Game Bird permits sold in 1986 compared to 36,445 in 1985, an increase of 3.4% (Table 84).

Waterfowl (duck and goose) hunter days increased by 14% from 1985 with an estimated 34,821 active hunters, 25% below the 13 year average. In 1986, waterfowl hunters spent 3.4 days in the field, similar to 1985 (3.2 days), and slightly above the 13 year average (2.9 days; Table 85).

Table 84. Saskatchewan Game Bird Licence Sales and Migratory Game Bird Permit Sales 1966-1986

	Game Bird Licence Sales (%)				
Year	Saskatchewan Resident (%)	Canadian Resident (%)	Non-Resident (%)	Total	Saskatchewan Migratory Game Bird Permit Sales
1986*	41,317 (87.52)	2,158 (4.57)	3,731 (7.90)	47,206	37,692
1985	38,243 (87.07)	2,181 (4.97)	3,497 (7.96)	43,921	36,445
1984	40,102 (88.13)	2,125 (4.67)	3,277 (7.20)	45,504	37,720
1983	47,157 (87.53)	2,978 (5.53)	3,741 (6.94)	53,876	45,383
1982	50,179 (86.62)	3,719 (6.42)	4,034 (6.96)	57,932	47,236
1981	49,034 (86.56)	3,813 (6.73)	3,801 (6.71)	56,648	42,856
1980	59,151 (88.45)	3,929 (5.88)	3,793 (5.67)	66,873	54,081
1979	59,044 (87.63)	3,907 (5.80)	4,429 (6.57)	67,380	56,174
1978	60,901 (87.79)	3,827 (5.52)	4,645 (6.70)	69,373	57,958
1977	62,205 (88.00)	3,901 (5.52)	4,583 (6.48)	70,689	60,029
1976	62,288 (86.43)	4,746 (6.59)	5,030 (6.98)	72,064	61,669
1975	57,275 (87.26)	4,312 (6.57)	4,048 (6.17)	65,635	57,723
1974	52,591 (87.36)	3,821 (6.35)	3,790 (6.30)	60,202	51,504
1973	50,586 (88.60)	2,898 (5.08)	3,609 (6.32)	57,093	51,307
1972	47,217 (81.46)	5,605 (9.67)	5,140 (8.87)	57,962	50,004
1971	45,398 (81.11)	5,076 (9.07)	5,496 (9.82)	55,970	49,448
1970	48,685 (84.32)	4,866 (8.43)	4,190 (7.26)	57,741	47,722
1969	46,709 (85.98)	3,410 (6.28)	4,204 (7.74)	54,323	45,347
1968	52,430 (93.27)	Not required	3,784 (6.73)	56,214	43,596
1967	52,598 (93.62)	Not required	3,583 (6.38)	56,181	44,651
1966	50,687 (93.90)	Not required	3,294 (6.10)	53,981	44,744
1976-85 Average	52,830 (87.43)	3,513 (5.81)	4,083 (6.76)	60,426	49,955

*Sales figures to May 20, 1987 (and considered final).

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Table 85. Saskatchewan Waterfowl Hunting Activity, 1973-1986*

Year	Active Waterfowl Hunters	Waterfowl Hunter Days	Hunter Days/ Active Hunter
1973	43,200	116,700	2.7
1974	47,700	150,000	3.1
1975	56,100	175,500	3.1
1976	58,500	188,600	3.2
1977	57,100	163,300	2.9
1978	52,300	135,400	2.6
1979	51,300	138,300	2.7
1980	48,600	128,200	2.6
1981	38,300	98,100	2.6
1982	42,400	108,200	2.5
1983	42,900	122,900	2.9
1984	32,000	94,100	2.9
1985	32,970	105,100	3.2
1973-1985 Average	46,420	132,650	2.9
1986	34,821	119,627	3.4
% Change			
1986 from 1985	+6%	+14%	+6%
1986 from Average	-25%	-10%	+17%

*Note: Waterfowl hunting activity includes both duck and goose hunting.

001

DUCKS

1986 Hunting Activity and Harvest

Estimated retrieved kill of ducks in Saskatchewan during 1986 was 181,077 birds, an 18% increase over the 152,978 taken in 1985, but still well below the 1977-85 average (Table 86; Figure 9). Mallard harvest increased by 12.5% from 111,338 in 1985 to 125,212 in 1986 (Table 87). The majority of the mallard harvest occurred from October 1-20 (Figure 10).

Duck harvest per active Saskatchewan resident, non-resident Canadian and non-resident alien averaged 6.6, 6.8 and 12.0 birds, respectively. For the fourth consecutive year there have been more active goose hunters (29,516) than duck hunters (25,058; Table 88).

In an effort to determine mallard hen harvest, the 1986 Saskatchewan Game Bird Hunter Questionnaire requested respondents to list drakes and hens separately. Using this data a sex ratio of 2.8 (males per females) was determined (Table 89). The 1986 CWS estimate, determined from wing collections during the hunting season, was 1.7 and has not been greater than 2.0 for the past 8 years. This suggests that Saskatchewan hunters cannot accurately differentiate between male and female mallards, or tend to bias their reporting towards males. Nieman and Smith (1985) reported that only 62.1% of Saskatchewan hunters could correctly identify the sex of mallard ducks (Table 90). This underscores the need for Saskatchewan hunters to improve their duck identification skills.

1987 Duck Populations and Regulations

Most of the Grassland, Aspen Parkland and Boreal Forest regions of Alberta, Saskatchewan and Manitoba received above normal precipitation during the summer of 1986. In south-western Saskatchewan over 150% of normal moisture was recorded. However, below normal snowfall was recorded for all of these areas and mild temperatures through much of the winter reduced the snow pack over much of southern Saskatchewan and Alberta. Southern Saskatchewan and

Table 86. Estimated retrieved kill of ducks in Saskatchewan, 1977-86 by Zone (after CWS Progress Notes and interim data via L. Métras, CWS, Ottawa; Provincial estimates via SPRC).

	Federal Estimates				
Year	Zone 1	Zone 2	Zone 3	Total*	Provincial Estimates
1977	158,430	135,705	214,623	508,758	467,950
1978	148,894	136,701	241,707	527,302	404,663
1979	173,336	154,397	254,960	582,693	553,790
1980	144,446	129,774	169,331	443,551	397,608
1981	82,305	70,474	120,472	273,251	239,753
1982	95,401	84,602	144,144	324,147	291,539
1983	125,434	75,343	180,967	381,744	326,100
1984	80,266	72,159	105,243	257,668	183,000
1985	79,411	49,232	82,275	210,918	152,978
1977-1985 Average	120,880	100,932	168,191	390,003	334,153
1986	81,291	58,489	86,698	226,478	181,077

*Total includes Zones 1, 2 and 3

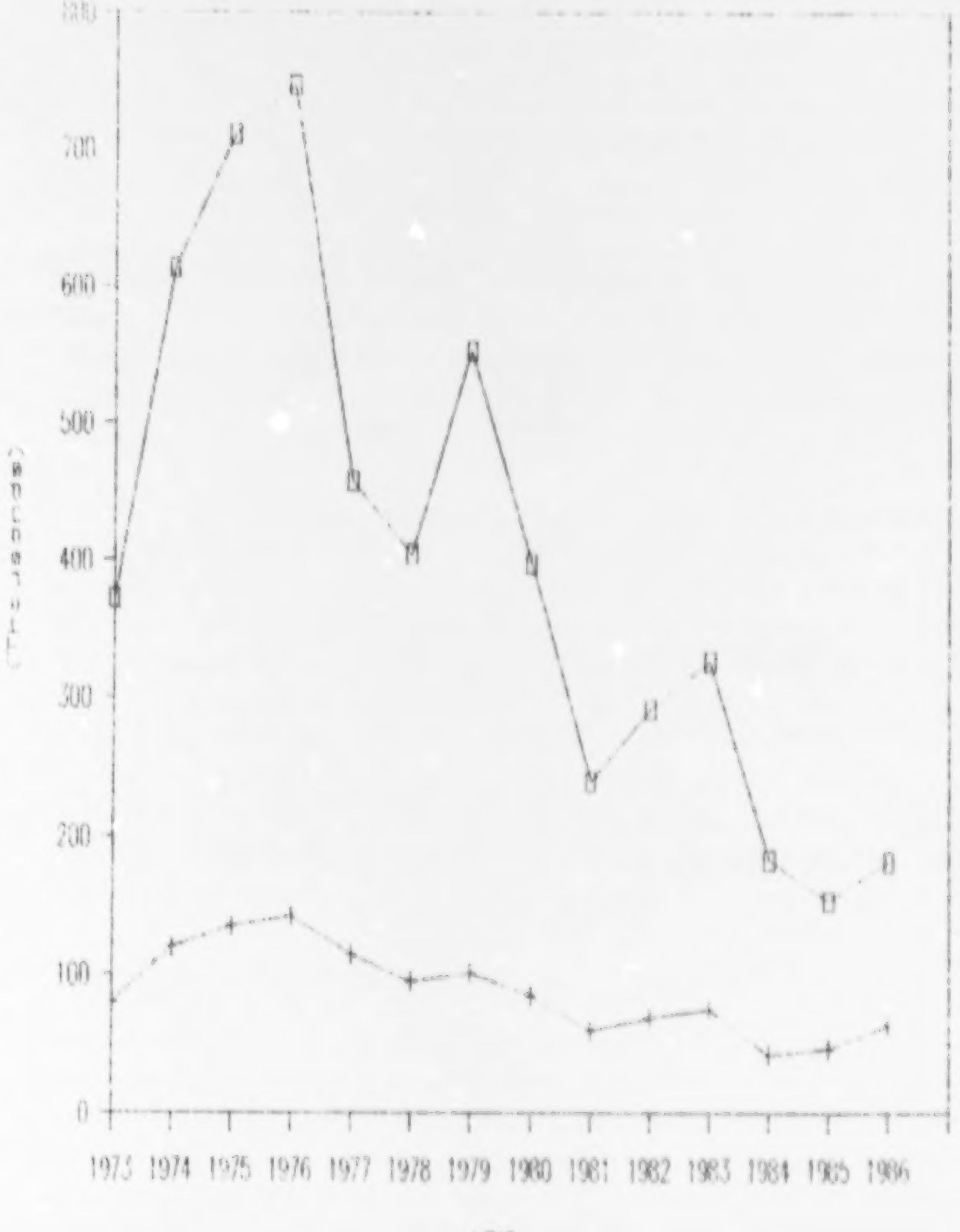

Figure 9 . Saskatchewan duck hunter days and harvest, 1973-1986

Table 87. Estimated retrieved kill of mallards in Saskatchewan, 1977-1986 (after CWS Progress Notes and interim data via L. Métras, CWS, Ottawa and SPRC).

	Federal Estimates				
Year	Zone 1	Zone 2	Zone 3	Total*	Provincial Estimates
1977	118,835	107,011	166,594	392,440	365,771
1978	118,016	106,978	171,738	396,732	317,838
1979	117,330	119,394	185,940	422,664	432,351
1980	116,997	107,808	129,841	354,646	322,050
1981	68,721	55,082	106,391	230,194	195,953
1982	71,046	64,080	106,006	241,132	222,317
1983	99,291	48,263	138,238	285,792	244,541
1984	58,099	46,116	77,467	181,682	140,764
1985	54,464	37,728	66,236	158,428	111,338
1977-1985 Average	91,422	76,940	127,605	295,967	261,435
1986	51,222	40,652	59,233	151,107	125,212

* Total includes Zones 1, 2 and 3

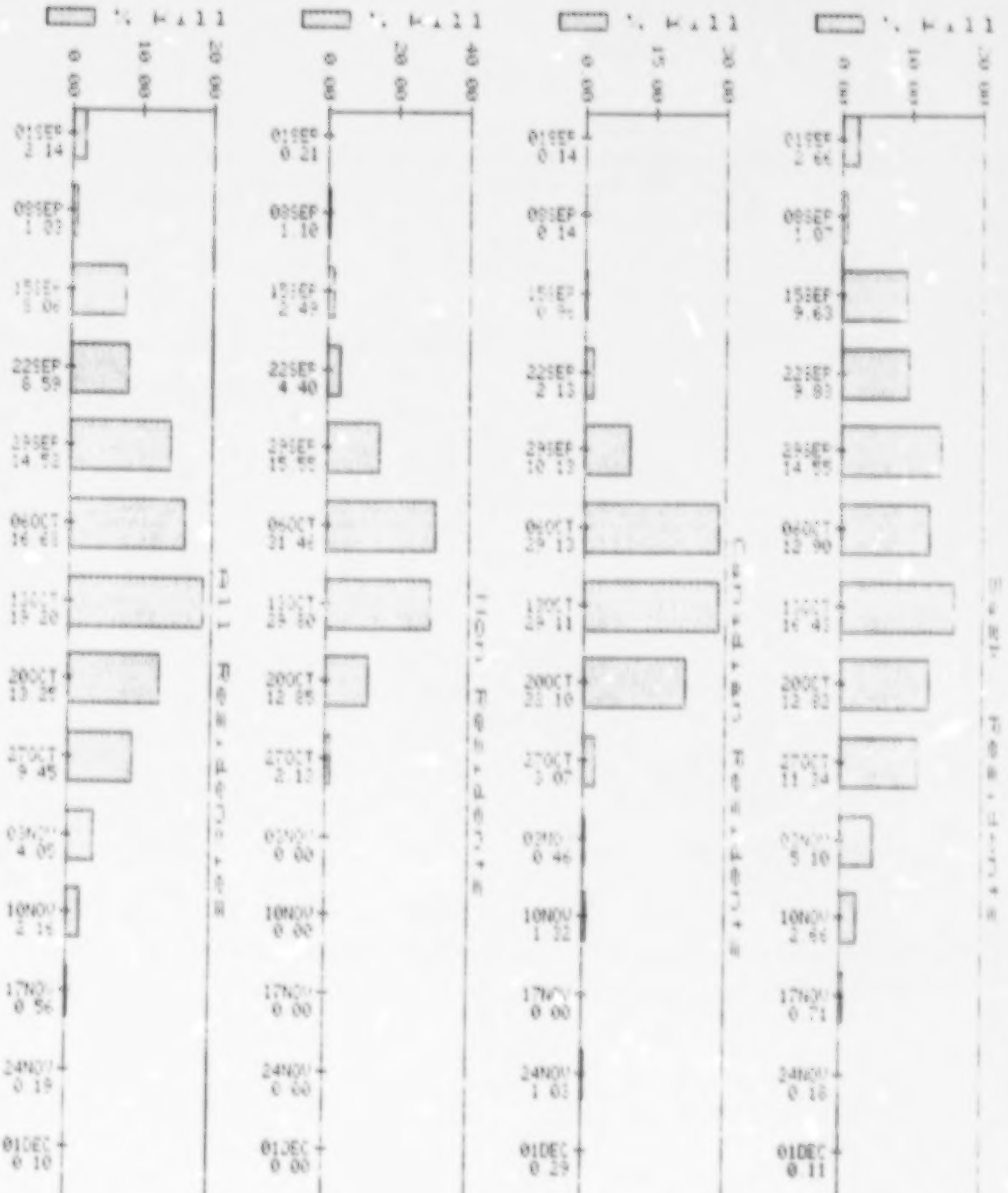

Figure 10. Saskatchewan 1986 Mallard Harvest by Weekly Intervals

Table 88. Saskatchewan Waterfowl Harvest Summary 1986

	Sask. Resident		Non-Resident, Cdn.		Non-Resident, Alien		All Hunters	
MALLARD DUCKS - Drakes	71.292	39.37%	4.293	2.37%	16.738	9.24%	92.322	50.98%
MALLARD DUCKS - Hens	27.507	15.19%	1.431	0.79%	3.951	2.18%	32.889	18.16%
MALLARD DUCKS	98.799	54.56%	5.724	3.16%	20.689	11.42%	125.212	69.14%
OTHER DUCKS	39.291	21.69%	2.112	1.16%	14.463	7.98%	55.866	30.85%
TOTAL DUCKS	138.090	76.26%	7.835	4.32%	35.152	19.41%	181.077	100.00%
Successful Hunters (% of Active)	18.205	(86.82%)	1.050	(90.45%)	2.763	(94.27%)	22.017	(87.86%)
Active Hunters	20.967		1.160		2.931		25.058	
Kill / Active Hunter	6.6		6.8		12.0		7.2	
Kill / Successful Hunter	7.6		7.5		12.7		8.2	
Days / Active Hunter	2.2		2.8		4.8		2.5	
Days / Successful Hunter	2.5		3.1		5.1		2.9	
Days Hunted	46.315.1		3.218.5		13.974.9		63.508.5	
CANADA GEESE	69.988	43.98%	5.084	3.19%	10.571	6.64%	85.642	53.82%
WHITE-FRONTED GEESE	26.876	16.89%	2.804	1.76%	5.919	3.72%	35.600	22.37%
SNOW GEESE	26.084	16.39%	2.058	1.29%	6.700	4.21%	34.842	21.89%
OTHER GEESE	2.166	1.36%	168	0.10%	693	0.43%	3.027	1.90%
TOTAL GEESE	125.114	78.63%	10.115	6.35%	23.882	15.00%	159.111	100.00%
Successful Hunters (% of Active)	19.971	(81.09%)	1.497	(88.59%)	2.974	(92.93%)	24.442	(82.81%)
Active Hunters	24.626		1.689		3.200		29.516	
Kill / Active Hunter	5.1		6.0		7.5		5.4	
Kill / Successful Hunter	6.3		6.8		8.0		6.5	
Days / Active Hunter	1.7		2.5		3.3		1.9	
Days / Successful Hunter	2.1		2.8		3.5		2.3	
Days Hunted	41.436.1		4.141.0		10.548.6		56.125.7	
WATERFOWL (D+G)	263.204	77.37%	17.950	5.27%	59.034	17.35%	340.189	100.00%
Successful Hunters (% of Active)	26.210	(89.17%)	1.812	(93.24%)	3.397	(97.48%)	31.420	(90.23%)
Active Hunters	29.393		1.943		3.485		34.821	
Kill / Active Hunter	9.0		9.2		16.9		9.8	
Kill / Successful Hunter	10.0		9.9		17.4		10.8	
Days / Active Hunter	3.0		3.8		7.0		3.4	
Days / Successful Hunter	3.3		4.1		7.2		3.8	
Days Hunted	87.744.2		7.359.5		24.523.6		119.627.2	

Table 89. Sex ratios of mallards harvested in Saskatchewan.

Year	CWS Estimate [a] Males Per Female	 Wings Received	SPRC Estimate [b] Males Per Female
1979	1.5	1,704	
1980	1.7	1,462	
1981	1.8	835	
1982	1.9	840	
1983	2.0	1,119	
1984	1.7	578	
1985	1.8	477	
1986	1.7	489	2.8

a) determined from wing collections during the hunting season.

b) determined from hunter questionnaire. Data only available for 1986.

Table 90. Percent of Saskatchewan hunters able to correctly identify waterfowl as determined by bag checks, 1979-1983 (After Nieman and Smith 1985)

	% Hunters Able To Correctly Identify		
Species Name	Species	Sex	n
Mallard	96.4	62.1	224
Gadwall	17.2	10.3	29
American Wigeon	25.0	0.0	12
Green-winged Teal	76.9	7.7	26
Blue-winged Teal	76.5	11.8	17
Northern Shoveler	76.5	0.0	17
Common Pintail	68.9	24.6	61
Redhead	75.0	50.0	16
Canvasback	54.2	50.0	24
Lesser Scaup	75.0	37.5	32
Common Goldeneye	100.0	100.0	6
Bufflehead	100.0	100.0	1
Ruddy Duck	50.0	0.0	6
Ducks	78.8	42.5	471
Canada Goose	99.3	0.0	281
White-fronted Goose	94.6	0.0	350
Snow Goose	83.7	0.0	135
Ross' Goose	70.3	0.0	101
Blue Goose	100.0	0.0	15
Geese	91.7	0.0	882
Total	87.2	14.8	1,353

Alberta and parts of the Aspen Parkland experienced well below normal runoff this spring. Palmer Drought Index (PDI) values for January 1987 indicated below normal (dry:D) values for most of the prairies with above normal (moist:M) values in the Cypress Hills area and parts of the Aspen Parklands (Figure 11).

Ponds in southern Saskatchewan and the Prairie Pothole Region (includes Prairie Canada, Montana and the Dakotas) as determined from the spring breeding pair (air:ground) surveys, were reduced by 40% and 31% from 1986 and by 44% and 32% from the 1970-79 average, respectively (Table 91). The 1970-79 (10 year) average is used for comparison as it is the benchmark for the NAWMP and the Prairie Habitat Joint Venture. This more accurately reflects where we stand today in relation to our goals and objectives for the year 2000.

Recent studies in the Prairie Pothole region of the United States have indicated that mallard nest success is below 15% (Klett et. al. in press), the rate thought necessary for mallard populations in North Dakota to be self sustaining (Cowardin et. al., 1985). Field work conducted during 1982-85 on 17 study areas in southern Alberta, Saskatchewan and Manitoba estimated mallard nest success at 12%, with a range on individual study areas from 2 to 29% (Greenwood et. al., 1987). Of 31 annual mallard nest success estimates on individual study areas, only 7 equalled or exceeded 15%.

The number of mallards per km^2 in the Prairie-Parklands for the years 1961-86 are presented in Table 92. Following low populations during the drought years of the 1960's, mallard numbers generally increased and remained relatively high through the 1970's. Since 1979, during stabilized regulations, the average density of mallards declined in Prairie Canada, especially in southern Alberta and southern Saskatchewan (Reynolds 1987).

The total duck population in southern Saskatchewan in 1987, as recorded during the CWS/USFWS Waterfowl Breeding Population Survey, was 5.6 million, down 11% from 1986, 42% below the 1970-79 average and 35% below the long term mean (Tables 91, 93 and 94). Total dabbling ducks decreased 15% from last year, and remained 24% below average. Mallards decreased by 20% and remain 51% below the 1970-79 average.

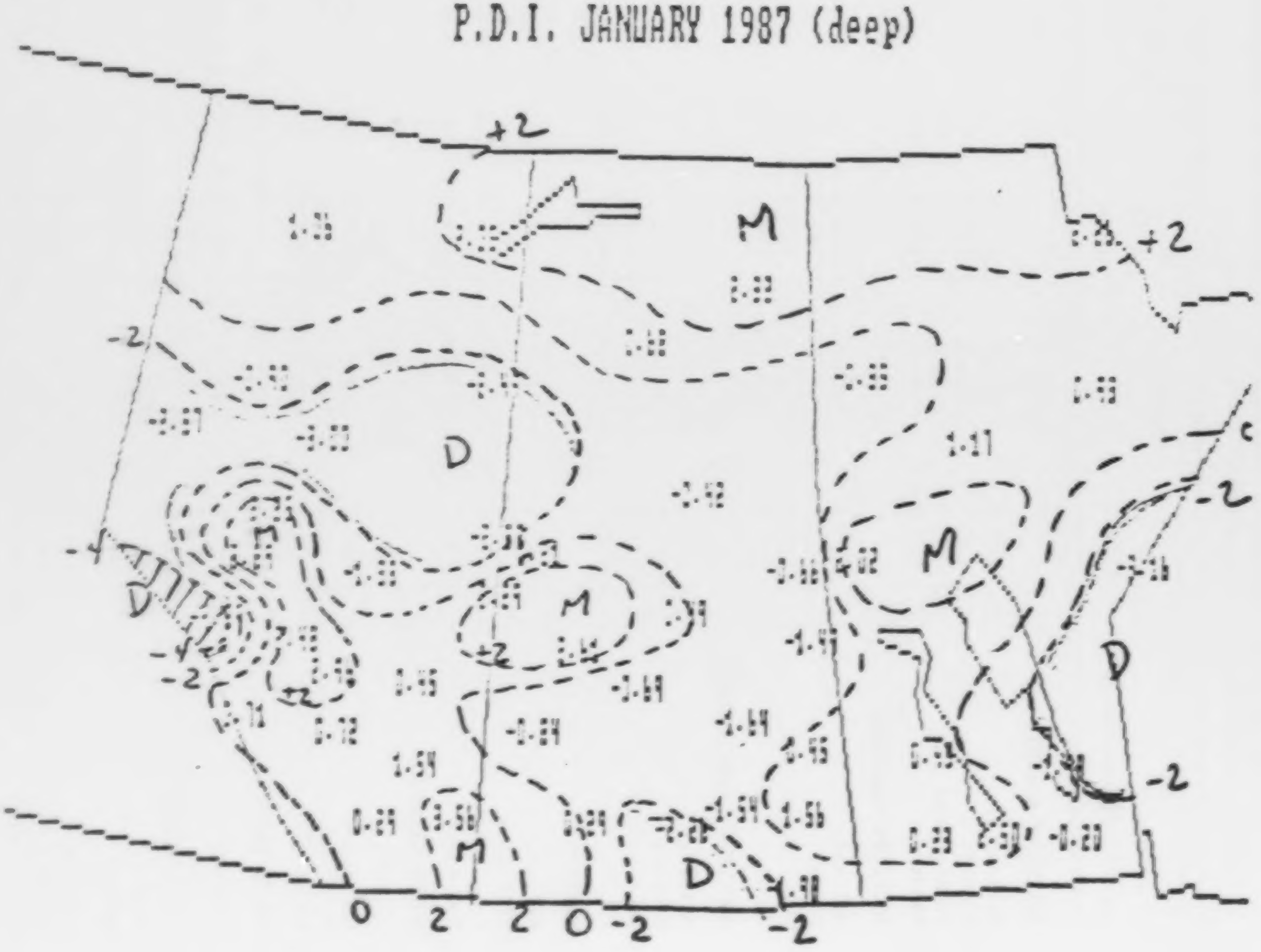
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Figure 11. January 1987 Palmer Drought Index (PDI) values for Alberta, Saskatchewan and Manitoba (After Taylor 1987).

Table 91. Duck breeding pair and pond indices for Prairie Canada, Montana and the Dakotas (indices in thousands). After CWS/USFWS waterfowl breeding pair (air:ground) survey.

	Index			% Change from	
Location/Ducks/Ponds	1986	1987	1970-79 Average	1986	1970-79 Average
SOUTHERN ALBERTA					
Mallard	698.9	690.8	1,410.9	-01	-51
Pintail	242.6	293.5	1,349.6	+21	-78
Total ducks	2,711.0	2,827.1	5,854.3	+04	-52
Ponds	727.6	716.7	1,022.5	-02	-30
SOUTHERN MANITOBA					
Mallard	411.0	256.3	346.9	-38	-26
Pintail	120.8	56.3	170.4	-53	-67
Total ducks	1,919.5	1,366.1	1,746.3	-29	-22
Ponds	956.8	495.9	916.4	-48	-46
SOUTHERN SASKATCHEWAN					
Mallard	1,613.2	1,282.8	2,594.2	-20	-51
Pintail	546.0	340.6	1,790.7	-38	-81
Total ducks	6,245.5	5,560.2	9,647.3	-11	-42
Ponds	2,349.7	1,416.5	2,544.3	-40	-44
MONTANA					
Mallard	156.9	240.9	384.5	+54	-37
Pintail	95.9	146.0	263.1	+52	-45
Total ducks	602.5	839.7	1,309.5	+39	-36
Ponds	396.7	229.1	286.0	-42	-20
NORTH DAKOTA					
Mallard	487.7	582.6	589.3	+19	-01
Pintail	260.0	191.6	505.4	-26	-62
Total ducks	3,138.0	2,998.5	3,064.8	-04	-02
Ponds	728.6	600.5	669.5	-18	-10
SOUTH DAKOTA					
Mallard	532.0	556.8	421.0	+05	+32
Pintail	389.5	212.7	295.1	-45	-28
Total ducks	3,770.6	2,531.9	2,588.0	-33	-02
Ponds	609.4	516.9	418.5	-15	+24
TOTALS					
Mallard	3,899.7	3,610.2	5,746.8	-07	-37
Pintail	1,654.8	1,240.7	4,374.3	-25	-72
Total ducks	18,387.1	16,123.5	24,210.2	-12	-33
Ponds	5,768.8	3,975.6	5,857.2	-31	-32

Table 92. Mallard breeding population/km^2 in Prairie-Parkland Canada, 1961-85 (After Reynolds 1987).

Year	Southern Alberta	Southern Saskatchewan	Southern Manitoba
1961	8.15	5.73	3.17
1962	5.90	3.94	2.01
1963	7.12	5.39	3.28
1964	6.72	4.79	4.10
1965	5.37	3.84	3.03
1966	9.29	6.83	3.23
1967	9.02	7.00	3.99
1968	5.48	7.37	1.86
1969	6.74	7.52	3.69
1970	9.57	10.21	4.43
1971	11.24	11.82	2.85
1972	10.96	9.28	4.04
1973	10.39	8.22	2.31
1974	9.46	7.23	3.21
1975	8.39	8.49	3.47
1976	8.73	10.51	5.34
1977	5.12	9.96	2.52
1978	5.06	6.64	2.86
1961-1978 Average	7.93	7.49	3.30
1979	5.90	7.77	3.56
1980	5.85	7.43	3.31
1981	5.69	5.23	3.51
1982	4.60	6.75	3.88
1983	5.08	5.96	3.36
1984	4.28	4.91	1.75
1985	4.82	4.28	2.25
1986		5.55	
1979-1985 Average	5.17	5.98*	3.09
% Change	-35	-20	-6

*1979-86 average

Table 93. Long term trend in waterfowl breeding population estimates by species in southern Saskatchewan, 1976-87 (estimates in thousands).

Species	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
DUCKS												
Dabblers												
Mallard	3,026.5	2,866.8	1,911.4	2,237.2	2,138.8	1,504.5	1,944.4	1,713.7	1,412.1	1,232.9	1,613.2	1,282.8
Black Duck	.0	.0	.0	.7	.0	.0	.0	.0	.0	.0	.0	2.8
Gadwall	721.9	600.8	532.9	695.5	474.5	409.5	619.7	573.2	460.4	588.4	559.8	539.1
Am. Wigeon	664.6	460.6	641.5	812.8	610.4	332.2	594.5	675.0	366.7	453.4	575.4	546.8
G.W. Teal	321.9	222.3	302.1	463.7	276.6	185.3	269.8	255.8	131.4	273.4	274.9	357.7
B.W. Teal	1,799.6	1,631.2	902.4	1,482.8	1,307.2	1,110.1	818.2	963.2	874.9	1,327.3	876.5	672.5
N. Shoveler	823.0	422.7	426.6	692.4	494.8	333.8	699.1	792.8	352.7	670.9	713.0	643.8
N. Pintail	2,549.5	672.6	961.7	1,580.0	897.5	526.2	1,222.1	1,029.3	542.1	520.6	546.0	340.6
Subtotal	9,907.0	6,877.0	5,678.6	7,965.1	6,199.8	4,401.7	6,167.8	6,003.0	4,140.3	5,030.9	5,158.8	4,386.1
Divers												
Redhead	270.5	227.6	184.1	227.9	323.0	213.3	193.9	233.4	306.9	326.8	242.3	129.7
Canvasback	283.3	253.5	128.9	280.9	221.0	111.1	111.1	212.7	166.6	118.8	127.2	184.2
Scaups	495.0	702.2	526.1	796.5	629.0	277.1	498.2	844.8	549.2	328.2	468.9	612.8
Ringneck	49.1	45.0	51.8	54.0	63.9	47.2	80.4	25.1	48.0	24.7	15.9	33.7
Goldeneye	18.0	73.1	15.8	40.2	33.1	22.8	23.4	18.3	17.1	30.5	22.4	25.6
Bufflehead	33.5	52.5	58.1	61.8	34.8	40.0	33.5	52.2	38.5	36.9	45.4	42.4
Subtotal	1,149.4	1,353.9	964.3	1,461.3	1,304.8	711.5	940.5	1,386.5	1,126.3	865.7	922.1	1,028.4
Miscellaneous												
Oldsquaw	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Eiders	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Scoters	1.3	5.1	3.2	15.1	2.1	.6	4.0	3.0	3.7	3.2	2.1	2.7
Ruddy Duck	97.3	122.7	68.1	134.5	77.1	76.6	301.2	149.9	88.5	163.7	162.5	138.7
Mergansers	3.4	2.1	4.1	8.2	4.3	9.2	2.2	3.7	11.2	1.2	.0	4.3
Subtotal	102.0	129.9	75.4	157.8	83.5	86.4	307.4	156.6	103.4	168.1	164.6	145.7
Total Ducks	11,158.4	8,360.8	6,718.8	9,584.2	7,588.1	5,199.6	7,415.7	7,546.1	5,370.0	6,064.9	6,245.5	5,560.2
Am. Coot	1,513.0	440.0	433.6	1,309.1	634.3	395.1	282.8	673.4	566.7	622.8	551.3	270.6
Canada Goose	12.9	9.3	12.6	15.3	15.9	21.5	22.6	30.7	33.0	32.7	42.9	[illegible]

Table 94 Status of waterfowl breeding population estimates by species and stratum in Southern Saskatchewan, comparing 1987 with 1986, the 1977-1986 previous 10-year mean, and the 1955-1986 long-term mean (estimates in thousands).[a]

Species	Stratum (1987)						1987 Total	1986 Total	10-Year Mean	Long-Term Mean	Percent Change from		
	30	31	32	33	34	35					1986	10-Year Mean	Long-Term Mean
Ducks													
Dabblers													
Mallard	252.8	238.3	373.2	88.5	204.3	125.7	1,282.8	1,613.2	1,857.5	2,404.4	- 20	- 31	- 47
Am. black duck	.0	1.4	.0	.0	.0	1.4	2.8	.0	.1	.2	--	+2700	+1300
Gadwall	96.3	95.0	227.4	39.7	47.3	33.4	539.1	559.7	551.5	512.9	- 4	- 2	+ 5
Am. wigeon	127.4	104.3	235.6	41.6	23.6	14.3	546.8	575.4	552.3	709.3	- 5	- 1	- 23
Green-winged teal	35.8	35.5	28.7	21.8	115.2	120.7	357.7	274.9	261.9	294.4	+ 30	+ 37	+ 22
Blue-winged teal	135.6	127.0	189.1	18.7	100.2	101.9	672.5	876.5	1,129.4	1,481.5	- 23	- 40	- 55
N. shoveler	116.1	107.5	263.9	43.9	72.5	39.9	643.8	713.0	559.9	614.9	- 10	+ 15	+ 5
N. pintail	22.3	29.8	133.2	73.6	44.6	37.1	340.6	546.0	849.8	1,518.0	- 38	- 60	- 78
Subtotal	786.3	738.8	1,451.1	327.8	607.7	474.4	4,386.1	5,158.9	5,762.4	7,535.6	- 15	- 24	- 42
Divers													
Redhead	50.0	43.7	12.5	2.9	13.7	6.9	129.7	242.3	240.9	199.5	- 46	- 46	- 35
Canvasback	86.9	33.8	30.8	7.4	17.8	7.5	184.2	127.2	180.2	183.6	+ 45	+ 2	NC
Scaups	232.9	117.0	164.0	19.0	39.9	40.0	612.8	468.9	562.0	454.4	+ 31	+ 9	+ 35
Ring-necked duck	7.7	17.9	.0	.0	7.8	.3	33.7	15.9	45.6	28.0	+112	- 26	+ 20
Goldeneyes	24.0	.0	.0	.0	.8	.8	25.6	22.4	29.7	19.3	+ 14	- 14	+ 33
Bufflehead	15.5	12.7	.7	.0	6.5	7.0	42.4	45.4	45.4	31.8	- 7	- 7	+ 33
Ruddy duck	19.0	23.2	41.5	.0	37.6	17.4	138.7	162.5	134.5	117.7	- 15	+ 3	+ 18
Subtotal	436.0	248.3	249.5	29.3	124.1	79.9	1,167.1	1,084.6	1,238.3	1,034.3	+ 8	- 6	+ 13
Miscellaneous													
Oldsquaw	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	NC	NC	NC
Eiders	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	NC	NC	NC
Scoters	1.2	1.5	.0	.0	.0	.0	2.7	2.1	4.2	5.0	+ 29	- 36	- 46
Mergansers	1.8	1.2	.5	.5	.3	.0	4.3	.0	4.6	2.6	--	- 7	+ 65
Subtotal	3.0	2.7	.5	.5	.3	.0	7.0	2.1	8.8	7.6	+233	- 20	- 8
Total ducks	1,225.3	989.8	1,701.1	357.6	732.1	554.3	5,560.2	6,245.6	7,009.5	8,577.5	- 11	- 21	- 35
Canada goose	6.9	10.8	13.9	2.3	6.8	2.2	42.9	42.9	23.6	11.6	NC	+ 82	+ 270
Am. coot	53.2	88.5	34.6	8.8	47.0	38.5	270.6	551.3	594.9	673.8	- 51	- 55	- 60

[a] Adjusted for visibility bias.

Diving ducks increased by 8% from 1986, but remained 6% below average. Redheads decreased and canvasback increased slightly for the third consecutive year. Lesser scaup increased and coots decreased from 1986.

The 1987 duck brood index (109.4) for southern Saskatchewan increased by 8% from 1986 (101.0), 11% above the 10 year average (Table 95). However, the late-nesting index (all duck species), which is intended to be a rough measure of broods yet to hatch after the survey, was down 58% and 84% from 1986 and the long term average respectively. Late-nesting indices for mallard and pintail were down 37% and 56%, respectively from 1986. A strong early nesting effort may be a reason for the reduction in the late-nesting index.

There is serious concern for the status of waterfowl populations in Saskatchewan, particularly the mallard, the province's primary game duck. In spite of improved brood production last year (Table 96), spring mallard populations are the third lowest ever recorded and are reaching critically low levels. Historic mallard populations in excess of 5 million have been reduced to less than 1.3 million. Other species are also in trouble. Total ducks have declined from 10-20 million to less than 6 million over the past 30 years. Breeding populations are expected to continue for the near future to be limited by poor quality wetland and upland breeding habitat.

With exception of calendar adjustments, 1987 duck season dates and bag limits remain the same as 1986. These bag and possession limits are designed to maintain the mallard harvest at 25% below the projected harvest under liberal bag limits (8 ducks per day). Justification for continuing the conservative bag limits of 1986 this year include:

1. Mallard and total duck breeding populations remain low;
2. Agricultural practices continue to severely impact waterfowl breeding habitat;
3. Fall flights remain low; and
4. Waterfowl nest success continues to be low.

Table 95. Long-term trend in waterfowl brood and late-nesting indices in southern Saskatchewan (index in thousands).

Year	Duck Brood Index	Late Nesting Index		
		All Duck Species	Mallard	Pintail
1977	144.6	244.2	63.4	24.2
1978	130.4	194.9	55.4	16.2
1979	107.3	293.2	87.3	16.1
1980	130.7	81.2	23.3	7.4
1981	77.9	81.4	22.3	6.3
1982	63.2	188.1	62.0	7.6
1983	69.5	158.1	47.1	7.3
1984	70.5	64.0	21.8	3.4
1985	95.0	81.1	28.0	4.5
1986	101.0	53.7	15.0	1.6
1977-86 Average	99.0	144.1	42.6	9.5
1987	109.4	22.4	9.4	0.7
% change from 1986	+8	-58	-37	-56
% change from 10-year average	+11	-84	-78	-93

Table 96. Age-ratios (IMM:IAD) of waterfowl harvested in Saskatchewan as determined by wing receipts during the National Species Composition Survey. Unadjusted for juvenile vulnerability.

Year	Mallard	Pintail	Gadwall	B.W. Teal	Shoveler	Wigeon	Redhead	Canvas.	L. Scaup
1967	1.79	4.44	7.41	6.00	6.20	12.18	--	7.20	--
1968	0.90	2.03	3.48	--	--	6.04	--	--	--
1969	3.69	6.37	7.60	--	--	18.08	--	--	41.01
1970	4.10	6.30	5.97	4.90	--	3.56	--	--	1.45
1971	2.37	4.11	6.51	17.56	--	13.21	--	--	2.80
1972	1.54	4.00	3.38	3.17	10.82	7.33	3.06	4.00	1.86
1973	1.79	7.21	8.38	16.50	35.00	8.07	2.25	1.88	5.75
1974	2.57	5.03	7.13	13.20	20.17	14.43	2.29	16.50	6.00
1975	2.94	5.97	3.15	9.73	10.33	5.86	2.90	5.83	9.00
1976	2.24	3.19	2.17	5.10	11.43	2.83	1.86	0.93	3.21
1977	1.61	1.28	2.53	4.12	6.25	2.53	1.11	0.89	0.92
1978	1.47	5.25	2.69	4.71	7.75	6.00	1.12	2.20	5.25
1979	1.95	11.00	6.08	4.44	6.08	12.86	8.50	33.00	1.39
1980	1.31	2.50	1.48	8.14	11.25	15.25	2.33	1.17	1.11
1981	1.23	3.13	2.11	1.80	2.00	7.50	--	--	2.00
1982	1.28	3.25	3.00	--	13.33	7.00	0.67	2.00	2.14
1983	2.12	4.62	5.40	2.20	3.06	11.25	1.58	--	2.31
1984	1.63	5.00	5.20	4.00	--	18.00	3.00	2.20	1.73
1985	2.13	7.67	4.00	9.50	--	12.50	2.33	7.50	1.68
Average									
1967-85	2.04	4.86	4.61	7.19	11.05	9.71	2.54	6.56	5.27
1986	3.00	4.80	1.91	6.42	7.52	3.50	2.85	3.22	2.14

1967-1974 data from C.W.S Progress Notes #7, 14, 19, 25, 29, 37 and 42.
1975-1986 data from Western Wing Bee Hand Tally.

The 1987 season dates and bag limits are:

Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 16 Last Mountain Lake Wildlife Management Unit.	Sept. 14 - Dec. 12	6 ducks daily, only 4 of which may be mallards. 12 ducks in possession, only 8 of which may be mallards.
Zones 43, 48 to 51 and 53 to 76, including Meadow Lake, Clearwater River, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Forest Recreation Site.	Sept. 1 - Dec. 12	6 ducks daily, only 4 of which may be mallards. 12 ducks in possession, only 8 of which may be mallards.

GEESE

1986 Hunting Activity and Harvest

Total Saskatchewan goose harvest (all species) decreased by 9.8% from 176,362 in 1985 to 159,111 in 1986, 6.1% below the 9 year average (Table 97; Figure 12). Canada geese (86,642) comprised 54% of the harvest followed by white-fronted (35,600) and lesser snow (34,842) geese each contributing approximately 22% of the total harvest (Table 98). The majority of the goose harvest occurred between September 23 and October 25 (Figure 13).

Goose hunting activity again out-ranked duck hunting activity with 29,516 active goose hunters compared to 25,058 duck hunters. Goose hunters enjoyed 56,126 hunter days of recreation, down 5% from 1985.

Tail fans submitted to the National Species Composition Survey indicated that reproduction among Arctic geese was much reduced in 1986 compared with 1985 (Table 99).

1987 Goose Populations and Regulations

Populations of large Canada geese continue to thrive in agricultural Saskatchewan. Field researchers report that the Western Prairie and Great Plains populations have been increasing in recent years (1980-84) while the Hi-line population has remained stable at approximately 93,000 birds (Bromley et. al., 1986). These prairie-nesting geese have been the cause of an increasing number of spring and summer grazing complaints.

Mid-winter inventories of white-fronted geese show an increase from last year in the Central Flyway and a decline in the Mississippi Flyway (Table 100). The preliminary estimate of 218,000 whitefronts recorded during the 1987 spring coordinated survey represents an increase from last year, but remains well below population levels observed during the 1977-1983 period.

With the exception of calendar adjustments, the 1987 goose season dates and bag limits remain the same as 1986.

Table 97. Estimated harvest of geese in Saskatchewan by federal harvest zone, 1977-1986 (after Saskatchewan Department of Parks, Recreation and Culture and CWS, Ottawa).

Year	Federal Estimates				Provincial Estimates
	Zone 1	Zone 2	Zone 3	Total*	
1977	70,840	11,793	39,228	121,869	164,523
1978	72,519	16,517	49,481	138,517	146,648
1979	80,784	22,553	49,097	152,434	163,829
1980	102,439	18,008	50,942	171,389	184,786
1981	76,624	19,544	45,220	141,388	158,644
1982	79,548	24,040	47,408	150,996	155,188
1983	114,289	23,972	71,874	210,135	213,026
1984	88,833	20,938	60,386	170,158	162,219
1985	88,958	19,357	57,333	165,648	176,362
1977-1985 Average	86,093	19,636	52,330	158,059	169,469
1986	72,661	21,885	58,813	153,359	159,111

* Total includes Zones 1, 2 and 3

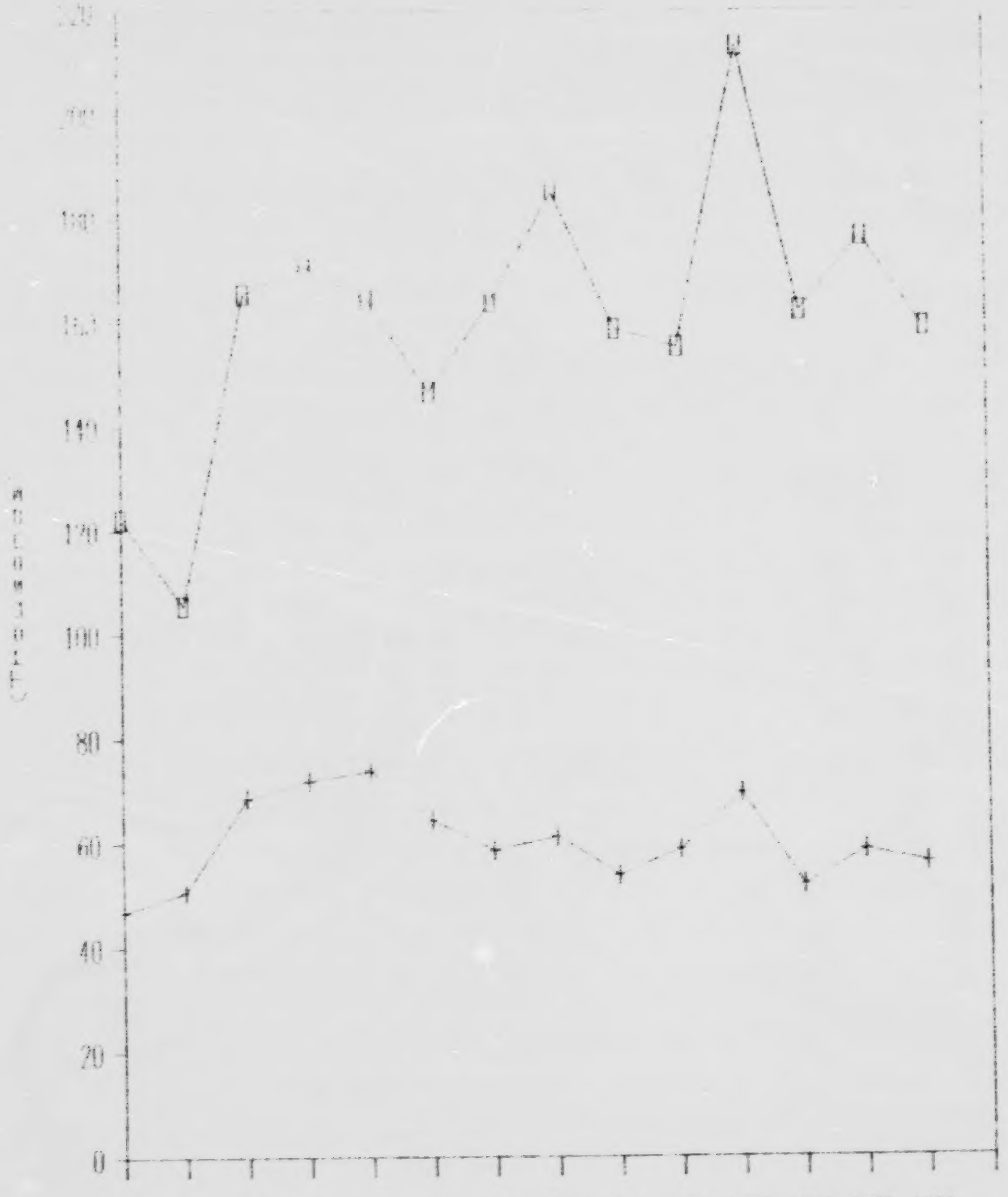

Figure 12. Saskatchewan goose hunter days and harvest, 1973-1986

Table 98. Goose harvest in Saskatchewan, 1982-1986

Species	1982	1983	1984	1985	1986	Percent Change 1985-1986
Canada	83,188	122,377	85,758	95,257	85,642	-10.1
White-fronted	41,644	43,001	40,405	38,710	35,600	- 8.0
Lesser Snow	25,683	42,832	31,469	38,297	34,842	- 9.0
Others	4,672	4,816	4,358	4,097	3,027	-26.1
Total	155,188	213,026	161,990	176,361	159,111	- 9.8

016

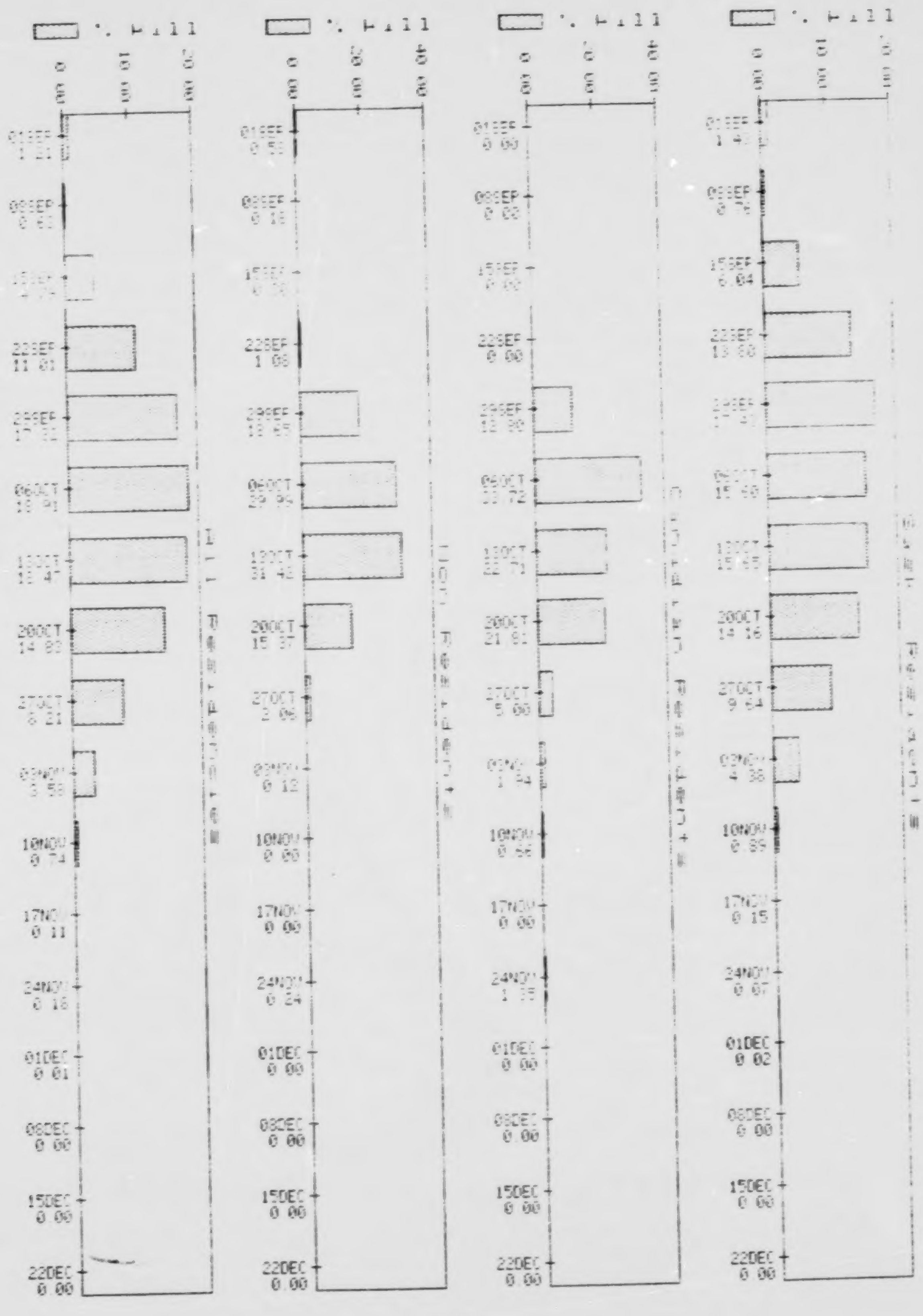

Figure 13. Saskatchewan 1986 Goose Harvest by Weekly Intervals

Table 99 . Age ratio of goose species harvested in western Canada (Alberta-Saskatchewan-Manitoba) 1980-1986. After tail fans submitted to the National Species Composition Survey. Preliminary data from Wing Bee Hand Tally. Sample size in parenthesis.

Hunting Season	Adult:Immature Ratios				
	L. Canada	S. Canada	Whitefront	Ross'	Snow*
1980	1:0.51(939)	1:1.62(467)	1:1.05(435)	1:0.79(25)	1:0.84(540)
1981	1:0.23(879)	1:1.38(386)	1:1.00(400)	1:1.10(21)	1:1.14(492)
1982	1:0.30(652)	1:0.91(313)	1:0.59(219)	1:1.00(28)	1:0.74(634)
1983	1:0.49(902)	1:1.76(623)	1:1.01(334)	1:1.36(26)	1:1.04(696)
1984	1:0.42(874)	1:1.38(486)	1:1.05(307)	1:1.23(29)	1:1.12(701)
1985	1:0.37(360)	1:1.29(156)	1:1.27(216)	1:2.67(22)	1:0.70(179)
1986	1:0.26(1162)	1:0.66(384)	1:0.50(337)	1:2.11(28)	1:0.47(496)

*Includes blue geese

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Table 100. Comparison of mid-continent white-fronted goose population indices from winter and spring surveys, 1961-1986 (estimates in thousands).

	Winter Surveys													
	United States						Mexico							
Year	Central Flyway		Mississippi Flyway		Subtotal		Interior		East Coast		Subtotal		Total[e]	Spring Survey
	Dec.[a]	Jan.	Dec.[a]	Jan.	Dec.[a]	Jan.	Dec.[b]	Jan.	Dec.[b]	Jan.	Dec.[b]	Jan.		
1961	-[d]	7.9	-	24.5	-	32.4	-	5.7	-	3.3	-	9.0	41.4	58.1
1962	-	13.0	-	20.0	-	33.0	-	4.4	-	6.4	-	10.8	43.8	76.5
1963	-	30.4	-	32.1	-	62.5	-	5.8	-	22.5	-	28.3	90.8	74.0
1964	-	27.8	-	30.3	-	58.1	-	8.0	-	33.0	-	41.0	99.1	101.9
1965	-	10.1	-	33.7	-	43.8	-	9.7	-	20.5	-	30.2	74.0	76.8
1966	-	13.1	-	45.7	-	58.8	-	-	-	2.2	-	2.2	61.0	81.4
1967	-	14.4	-	46.0	-	60.4	-	-	-	4.5	-	4.5	64.9	98.7
1968	-	12.2	-	24.4	-	36.6	-	-	-	-	-	-	36.6	120.2
1969	-	16.7	-	21.0	-	37.7	-	-	-	4.9	-	4.9	42.6	122.1
1970	-	22.1	-	50.6	-	72.7	-	4.9	-	13.9	-	18.8	91.5	136.0
1971	-	21.1	-	39.3	-	60.4	-	-	-	-	-	-	60.4	167.8
1972	-	32.1	-	45.8	-	77.9	-	-	-	-	-	-	77.9	84.4
1973	29.7	-	43.0	-	72.7	-	-	-	-	-	-	-	72.7	174.0
1974	49.5	-	43.2	-	92.7	-	-	-	-	-	-	-	92.7	200.7
1975	39.5	-	40.4	-	79.9	-	-	16.8	-	29.3	-	46.1	79.9(126.0)[e]	173.6
1976	54.8	-	53.4	-	108.2	-	-	-	-	-	-	-	108.2	180.4
1977	29.6	-	50.4	-	80.0	-	23.3	14.9	-	8.4	23.3	23.3	103.3(103.3)	254.6
1978	140.5	-	53.1	-	193.6	-	-	34.4	3.1	9.5	3.1	43.9	196.8(237.6)	336.7
1979	69.0	-	49.3	-	118.3	-	29.2	26.5	21.8	33.2	51.0	59.7	169.3(178.0)	299.9
1980	107.2	-	59.0	-	166.2	-	27.5	31.6	5.9	24.9	33.4	56.5	199.6(222.7)	304.0
1981	110.9	-	67.5	-	178.4	-	-	8.3	-	26.1	-	34.4	178.4(212.8)	138.9
1982	155.9	-	65.6	-	221.5	-	19.8	45.4	-	3.8	19.8	49.2	241.3(270.7)	299.5
1983	110.8	-	62.0	-	172.8	-	-	-	-	-	-	-	172.8	263.3
1984	140.0	-	70.3	-	210.3	-	-	-	15.0	-	15.0	-	225.3	76.9
1985	156.0	-	81.3	-	237.3	-	-	12.4	-	18.0	-	30.4	237.3(267.7)	154.0
1986	92.7	-	78.6	-	171.3	-	-	-	-	-	-	-	171.3	179.0
1987	194.5	-	71.5	-	266.0	-	-	-	-	-	-	-	266.0	217.9

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[a] December figures are from the previous year

[b] December surveys are incomplete in that only a portion of the known range was covered

[c] January totals for 1961-72 period and December totals for 1973-85 period

[d] No survey

[e] Combining December U.S. counts with January Mexico counts

The 1987 season dates and bag limits are:

Zones 1 to 14, 19 and 22 to 29, including Elbow Wildlife Management Unit	Sept. 23 - Dec. 12	5 daily (2 only may be white-fronted geese) 10 possession (4 only may be white-fronted geese).
Zones 15, 16, 17, 18, 20, 21, 30 to 42, 44 to 47 and 52, including Valeport and Last Mountain Lake Wildlife Management Units	Sept. 16 - Dec. 12	5 daily (3 only may be white-fronted geese) 10 possession (6 only may white-fronted geese).
Zones 43, 48 to 51, and 53 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Forest Recreation Site	Sept. 1 - Dec. 12	5 daily (3 only may be white-fronted geese) 10 possession (6 only may white-fronted geese)

Goose season for Canadian residents and non-residents of Canada begins September 30 in Zones 1 to 52, 54, 56 and 57.

Note: Starting September 30 in Zones 15 to 18, 20 to 22, 30 to 43 and 48 to 76: 3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in possession.

Starting October 14 in Zones 1 to 14, 19, 23 to 29 and 44 to 47: 3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in possession.

Note: Prior to October 18, in Zones 1 to 59, 67, 68 and 69, any open season for geese includes that portion of the day from one-half hour before sunrise to 12:00 noon local time. From October 19 to December 12 geese may be hunted all day in all open zones.

SANDHILL CRANES

1986 Hunting Activity and Harvest

The sandhill crane harvest in Saskatchewan was traditionally small until 1985 when 6,200 birds were taken which was nearly double the number taken in previous years (Table 101). The crane harvest increased by 21% from 1985 to 1986 (7,480); this harvest estimate is 79% above the 7-year average.

1987 Populations and Regulations

An annual coordinated spring sandhill crane survey is conducted in at least five central flyway states by the USFWS and state resource personnel. The 1987 aerial inventory data, although incomplete, indicate approximately 400,000 birds in this population (A. Novara, pers. comm.). Spring population estimates for the period 1974 to 1986 have indicated an increasing population of sandhill cranes in the Central Flyway (Table 102).

Consideration was given to extending the sandhill crane hunting season later in September, particularly in WMZ 19, 22, 23 and 29. The primary reasons for extending the season dates were to provide more hunting opportunity and to reduce crop depredation. However, the extended dates for the crane season in these WMZ could coincide with the occurrence of whooping cranes in the area, and were judged to be imprudent. In addition, recent research indicates that sandhill cranes cause less crop depredation than has been generally assumed, and that hunting can increase the extent of damage (L. Sugden, pers. comm.)

The 1987 season dates and bag limits for sandhill cranes remain similar to last year. The inclusion of sandhill cranes on Appendix II of the CITES treaty continues to pose problems for non-resident alien hunting and the 1987 season will continue to be restricted to residents of Canada.

The 1987 season dates and bag limits are:

Zones 19, 21 to 24, 29, 30, 37 to 42, 44 and 52	Sept. 1 - Sept. 15	5 daily, 10 possession
Zones 11 to 14	Sept. 9 - Sept. 22	5 daily, 10 possession

Table 101. Estimated retrieved kill of Sandhill Cranes in Saskatchewan, 1979-1986 (federal estimates after Progress Note 126 and interim data via L. Métras, CWS Ottawa; provincial estimates after Department of Parks, Recreation and Culture).

	Sandhill Crane Harvest	
Year	Federal Estimate	Provincial Estimate
1979	2,821	7,052
1980	4,690	4,230
1981	2,452	2,221
1982	2,040	3,478
1983	2,720	2,965
1984	3,043	3,110
1985	4,468	6,200
Average 1979-1985	3,176	4,179
1986	4,455	7,480

Table 102. Distribution of sandhill cranes within the mid-continent region during the coordinated spring survey, 1974-86

Date	ND	SD	Nebraska: Central Platte Valley[a]				Nebraska: Other	KS	CO	OK	NM	TX	Total			
			Ocular Cruise	Ocular Transect	Ocular Trans. w/photo Correction	Vert. Photo Transect							Ocular Cruise	Ocular Transect	Photo Corrected Ocular Transect Counts Plus Other and State Counts	Vert. Photo Transect
3/24-31/74	0	0	162,600(92%)[d]	--	--	--	9,000	1,900	--	400	--	3,200	177,100	--	--	--
3/25-30/75	0	0	223,600(98%)	--	--	--	2,300	900	500	100	100	TR	227,500	--	--	--
3/22-26/76	-[b]	0	147,500(97%)	--	--	--	2,800	300	--	100	1,000	800	152,500	--	--	--
3/13-23/77	0	300	173,400(79%)	--	--	--	1,100	1,600	--	400	12,500	30,700	220,000	--	--	--
3/20-24/78	-	0	149,800(94%)	188,600(95%)	--	--	2,200	700	--	--	2,300	4,900	159,900	198,700	--	--
3/20-29/79	0	0	--	203,600(97%)	--	--	2,600	1,100	500	1,500	0	0	--	209,300	--	--
3/24-4/15/80	Tr[c]	-	223,400(95%)	254,400(96%)	--	--	5,000	4,100	0	100	500	1,400	234,500	265,500	--	--
3/22-28/81	0	0	--	248,900(86%)	--	--	8,300	11,200	200	0	0	21,800	--	290,400	--	--
3/22-27/82	0	Tr	--	348,000(95%)	417,300(95%)	490,100(96%)	7,100	2,000	2,800	0	100	7,800	--	367,800	437,100	509,900
3/25-26/83	0	0	--	306,300(96%)	343,400(97%)	--	4,100	200	0	200	Tr	7,000	--	317,800	354,900	--
3/25-30/84	0	Tr	--	222,710(91%)	261,800(93%)	--	18,100	900	--	1,100	Tr	800	--	243,600	282,700	--
3/25-26/85	-	-	--	378,127(72%)	514,763(97%)	--	11,500	3,000	--	--	--	1,200	--	390,700	530,463	--
3/25-26/86	Tr	Tr	--	317,025(89%)	353,040(99%)	--	1,000	200	--	--	--	2,100	--	320,325	356,340	--

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[a] Utilizing various survey techniques within Nebraska's central Platte Valley.

[b] No survey

[c] Less than 50

[d] Percent of total M-C population index

OTHER WATERFOWL REGULATIONS

The 500 metre hunting restrictions on 44 major waterfowl staging areas are set by the Department of Parks, Recreation and Culture. The only change for 1987 is the elimination of the restriction on the islands of the Saskatchewan River (north of Melfort) as these islands were submerged with completion of the Nipawin dam.

A request for a 500 metre restriction on Moose Mountain Lake will be evaluated in 1987.

Clearwater River Provincial Park, designated in 1986, is open to both waterfowl and upland game bird hunting during the open season in Zone 73.

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UPLAND GAME BIRDS

1986 HUNTING ACTIVITY

Upland bird hunting activity returned to 1978-1980 levels with an 87% increase in hunter recreation days (74,900) and an increase of 39% in active hunters (Table 103; Figure 14; Appendix 15). Active hunters were only 6% below the long-term average (1973-1985) and the 28,850 active upland bird hunters each spent an average of 2.6 days hunting, the highest level in recent times. Activity (hunter days) increased for all upland bird species in 1986, and since 1973 has only been exceeded in 1976, 1977 and 1980 (Table 103).

An estimated 89% of active upland bird hunters were successful in bagging one or more birds and each successful hunter harvested an average of 9.4 upland birds. U.S. hunters were slightly more successful than Saskatchewan resident hunters, harvesting 11.2 birds per hunter while out of province Canadians harvested 8.2 birds each (Table 104).

The Farmland Zones (WMZ 15-30) continued to receive the heaviest hunting pressure (Table 105) with 44% of total upland hunter days generated in these zones. On an area basis, hunting pressure almost doubled in the Farmlands with 0.36 hunter days/km^2 compared to 0.26 hunter days/km^2 in the Grasslands. As in 1985, Zones 15 and 12 experienced the heaviest upland bird hunting pressure with 0.92 and 1.14 days/km^2. Zones 10, 11, 19 and 31 received between 0.50 and 0.65 hunter days/km^2, while Zones 4, 5, 16, 21 and 29 received between 0.40 and 0.49 hunter days/km^2.

Since the area of remaining native habitat in each new wildlife management zone has not yet been calculated, hunting pressure per unit of native habitat cannot be compared to 1983 levels.

Table 103. Saskatchewan Upland Game Bird Hunting Activity, 1973-1986

Year	Active Upland Bird Hunters	Upland Bird Hunter Days	Hunter Days/ Active Hunter
1973	28,500	53,275	1.9
1974*	21,857	37,801	1.7
1975*	27,812	48,161	1.7
1976*	39,035	86,525	2.2
1977*	41,772	93,496	2.2
1978	36,766	72,378	2.0
1979	36,373	72,096	2.0
1980	36,786	75,578	2.1
1981	32,147	68,988	2.1
1982	26,884	50,382	1.9
1983	28,266	60,146	2.1
1984	22,334	44,854	2.0
1985	20,777	40,149	1.9
1973-1985 Average	30,717	61,833	2.0
1986	28,849	74,900	2.6
% Change			
1986 from 1985	+39%	+87%	+37%
1986 from Average	-6%	+21%	+30%

*Inaccurate data was published for these years prior to 1979 corrections.

Note: 1983-86 data includes pheasant hunter days.

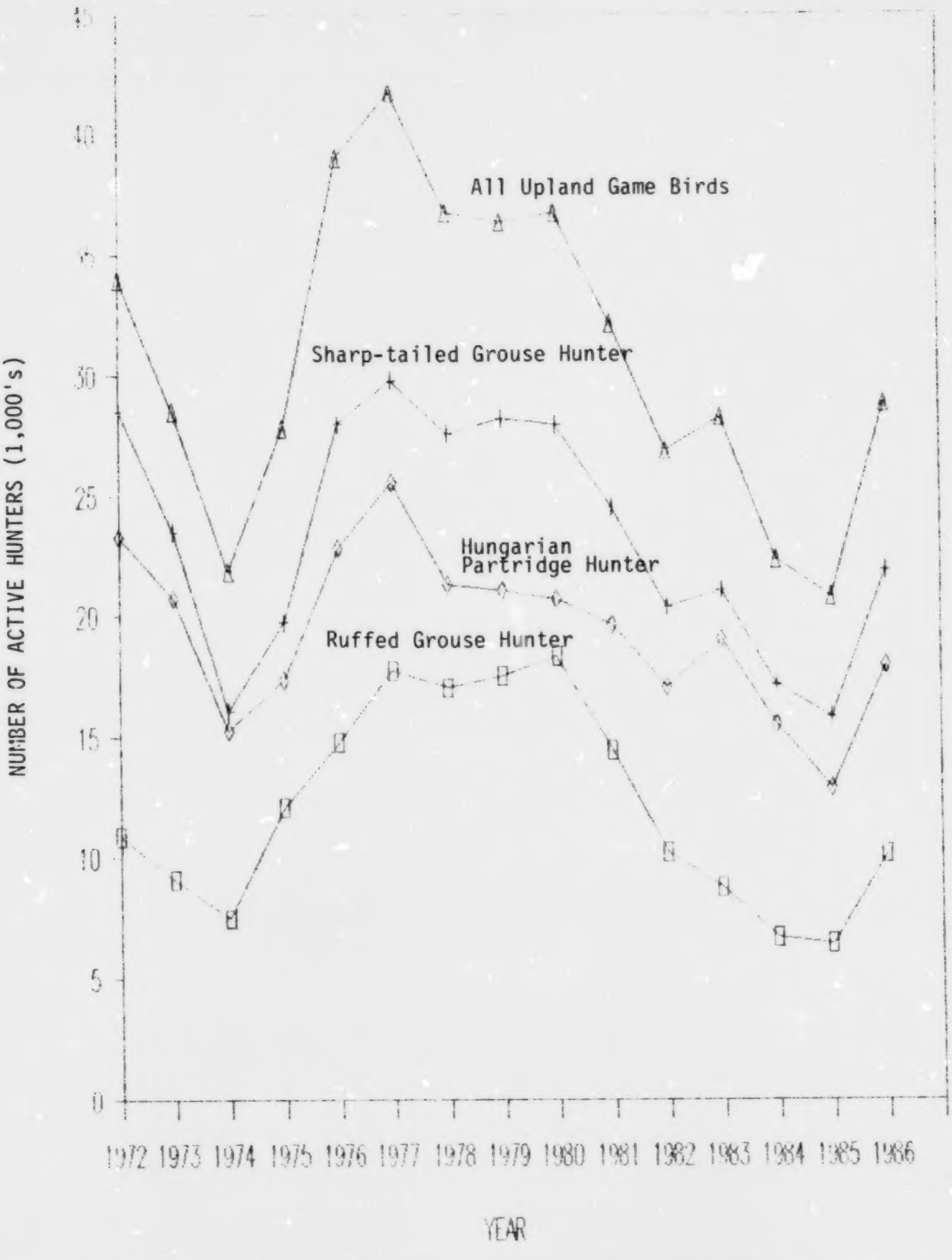

Figure 14. Upland game bird hunters active in Saskatchewan, 1972-86 (Active pheasant hunters included, 1983 to 1986)

Table 104. Saskatchewan Upland Game Bird Harvest Summary 1986

	Sask. Resident		Non-Resident, Cdn.		Non-Resident, Alien		All Hunters	
SHARP-TAILED GROUSE	68,824	87.60%	2,940	3.74%	6,802	8.65%	78,565	100.00%
Successful Hunters (% of Active)	15,562	(80.02%)	636	(76.35%)	1,392	(88.01%)	17,590	(80.46%)
Active Hunters	19,446		833		1,582		21,860	
Kill / Active Hunter	3.5		3.5		4.3		3.6	
Kill / Successful Hunter	4.4		4.6		4.9		4.5	
Days / Active Hunter	1.3		1.4		1.8		1.3	
Days / Successful Hunter	1.6		1.8		2.0		1.6	
Days Hunted	24,822.4		1,168.5		2,770.2		28,761.1	
HUNGARIAN PARTRIDGE	78,491	85.06%	3,456	3.74%	10,323	11.18%	92,270	100.00%
Successful Hunters (% of Active)	12,611	(79.04%)	562	(80.58%)	1,108	(84.44%)	14,281	(79.49%)
Active Hunters	15,955		697		1,312		17,964	
Kill / Active Hunter	4.9		5.0		7.9		5.1	
Kill / Successful Hunter	6.2		6.2		9.3		6.5	
Days / Active Hunter	1.3		1.5		2.0		1.4	
Days / Successful Hunter	1.7		1.8		2.4		1.8	
Days Hunted	21,422.6		1,020.9		2,682.7		25,126.2	
RUFFED GROUSE	46,350	96.60%	738	1.53%	889	1.85%	47,978	100.00%
Successful Hunters (% of Active)	7,886	(81.99%)	156	(65.51%)	219	(75.00%)	8,261	(81.40%)
Active Hunters	9,618		238		292		10,147	
Kill / Active Hunter	4.8		3.1		3.1		4.7	
Kill / Successful Hunter	5.9		4.7		4.1		5.8	
Days / Active Hunter	1.3		1.2		1.3		1.3	
Days / Successful Hunter	1.5		1.8		1.8		1.6	
Days Hunted	12,155.3		287.0		386.4		12,828.7	
SPRUCE GROUSE	11,749	98.87%	90	0.75%	44	0.36%	11,883	100.00%
Successful Hunters (% of Active)	2,341	(84.77%)	12	(75.00%)	29	(44.44%)	2,383	(83.78%)
Active Hunters	2,762		16		66		2,844	
Kill / Active Hunter	4.3		5.5		0.7		4.2	
Kill / Successful Hunter	5.0		7.3		1.5		5.0	
Days / Active Hunter	1.1		1.3		0.7		1.1	
Days / Successful Hunter	1.3		1.7		1.5		1.4	
Days Hunted	3,154.5		20.5		43.7		3,218.7	
PHEASANT	10,557	100.00%	0	0.00%	0	0.00%	10,557	100.00%
Successful Hunters (% of Active)	3,232	(67.79%)	0	(0.00%)	0	(0.00%)	3,232	(67.79%)
Active Hunters	4,767		0		0		4,767	
Kill / Active Hunter	2.2		0.0		0.0		2.2	
Kill / Successful Hunter	3.3		0.0		0.0		3.3	
Days / Active Hunter	1.0		0.0		0.0		1.0	
Days / Successful Hunter	1.5		0.0		0.0		1.5	
Days Hunted	4,991.1		0.0		0.0		4,991.1	
ALL UPLAND GAMEBIRDS	215,971	89.52%	7,224	2.99%	18,057	7.48%	241,253	100.00%
Successful Hunters (% of Active)	23,049	(88.55%)	882	(87.04%)	1,618	(89.51%)	25,549	(88.56%)
Active Hunters	26,028		1,013		1,808		28,849	
Kill / Active Hunter	8.3		7.1		10.0		8.4	
Kill / Successful Hunter	9.4		8.2		11.2		9.4	
Days / Active Hunter	2.6		2.5		3.2		2.6	
Days / Successful Hunter	2.9		2.8		3.6		2.9	
Days Hunted	66,538.9		2,492.8		5,868.5		74,900.2	

Table 105. Saskatchewan 1986 Upland Game Bird Hunting Activity by Ecological Zone (1984-1986)

	Total Upland Bird Hunter Days			% of Total Days			Hunter days/km^2		
	1984	1985	1986	1984	1985	1986	1984	1985	1986
Grassland (64,799 km^2, 10.3%)	12,717	10,666	16,844	24.8%	26.6%	22.5%	0.196	0.165	0.260
Farmlands (90,826 km^2, 14.5%)	18,010	16,720	32,943	40.2%	41.6%	44.0%	0.198	0.184	0.363
Parklands (98,446 km^2, 15.7%)	10,066	7,201	12,277	22.5%	17.9%	16.4%	0.102	0.073	0.125
Forest Fringe (26,262 km^2, 4.2%)	1,426	2,302	4,297	3.2%	5.7%	5.7%	0.054	0.088	0.164
Forest (165,120 km^2, 26.3%)	2,509	3,230	8,416	5.6%	8.0%	11.2%	0.015	0.020	0.051
Northern Shield (181,799 km^2, 29.0%)	55	28	56	0.1%	.07%	.07%	<0.001	<0.001	<0.001
Provincial Total (627,252 km^2)	**44,783**	**40,145**	**74,833**	**100%**	**100%**	**100%**	**0.071**	**0.064**	**0.119**

SHARP-TAILED GROUSE

1986 Hunting Activity and Harvest

The 1986 provincial sharptail harvest increased to 78,565 from the 1985 estimate of 41,800 birds, the highest level since 1981 and only 6% below the 1972-85 average (Tables 106, 107; Figure 15). The 1986 season dates were relaxed to a traditional September 22 opening (from September 30 in 1985) to promote hunter participation. Reproduction in 1986 was above average with a provincial index of 1.68 juveniles per adult in the harvest (Table 108). Hunter success increased by 38% from 1985 levels with 3.6 birds harvested per active sharptail hunter which is similar to the 1972-1985 average. Active sharptail hunters increased by 38% to 21,860, the highest level since 1981, while the sharptail harvest per species hunter day increased from 2.5 to 2.7 birds (Table 18).

Hunter success in the Grasslands increased to 1.09 birds harvested per upland hunter day from 0.88 in 1985 (Table 109). In the Farmlands, success increased slightly to 1.21 birds per day from 1.18 in 1985. Parkland sharptail hunters experienced decreased success with 1.22 birds per hunter day from 1.33 in 1985. Geographic distribution of the hunter harvest and chronologic breakdown of the harvest are illustrated in Figures 16 and 17, respectively.

The five major sharp-tailed grouse hunting zones in 1986 based on harvest/km^2 for total zone area were Wildlife Management Zones 10, 11, 12, 19 and 31 (Table 110). Fourteen percent of the sharptail harvest occurred during the opening week (September 22 - September 28) of the southern season (Figure 17).

In summary, the 1986 sharptail season was characterized by greatly increased hunter interest, success and harvest. Increased breeding populations, good reproduction especially in the Grasslands, and an 87% increase in hunter effort (days) were probably factors instrumental in almost doubling the sharp-tailed grouse harvest.

Table 106. Sharp-tailed Grouse Hunting Data for Saskatchewan, 1972-1986

Year	Active Sharptail Hunters	Sharp-tailed Grouse Hunter Days	Total All** Upland Bird Hunter Days	Upland Hunter Days/Active Sharptail Hunter	Sharptail Harvest	Sharptails Harvested/Total Active Sharptail Hunter	Sharptails Harvested/Total Upland Hunter Days
1972	28,575	N/A	56,534	2.0	107,813	3.8	1.9
1973	23,498	N/A	53,275	2.3	88,178	3.8	1.7
1974*	16,041	N/A	37,801	2.4	48,808	3.0	1.2
1975*	19,746	N/A	48,161	2.4	60,428	3.1	1.1
1976*	27,976	N/A	86,525	3.1	130,784	4.7	1.5
1977*	29,794	N/A	93,496	3.1	107,003	3.6	1.1
1978	27,577	41,153	72,379	2.6	104,497	3.8	1.4
1979	28,221	43,428	72,096	2.6	126,824	4.5	1.8
1980	27,949	43,044	75,578	2.7	108,455	3.9	1.4
1981	24,461	38,710	68,988	2.8	82,745	3.4	1.2
1982*	20,375	28,629	50,382	2.5	51,741	2.5*	1.0
1983	21,068	31,392	60,146	2.9	58,823	2.8	1.0
1984	17,164	17,421	44,854	2.6	54,233	3.2	1.2
1985	15,838	16,785	40,148	2.5	41,788	2.6	1.0
1972-1985 Average	23,449	32,570	61,455	2.6	83,723	3.6	1.4
1986	21,860	28,761	74,900	3.4	78,565	3.6	1.0
% Change							
1986 from 1985	+38%	+71%	+87%	+36%	+88%	+38%	No Change
1986 from Average	-7%	-12%	+22%	+31%	-6%	No Change	-29%

* Inaccurate data was previously published for these years.
**1983-1986 total upland bird hunter days includes pheasant hunter days.

Table 107. Sharp-tailed Grouse Harvest and Hunting Pressure by Wildlife Management Zone 1986

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	1,844	2.35	536	0.222	1.3	1,421	598
2	1,596	2.04	644	0.150	0.9	1,820	622
3	35	0.04	49	0.008	0.8	46	11
4	1,913	2.44	877	0.236	0.5	3,702	806
5	1,925	2.46	760	0.323	0.7	2,786	726
6	488	0.62	213	0.116	1.3	369	168
7	196	0.25	98	0.104	1.5	130	67
8	423	0.54	151	0.125	0.8	509	150
9	1,888	2.41	672	0.550	1.7	1,144	603
10	3,537	4.51	1,121	0.997	2.0	1,784	1,075
11	1,026	1.31	304	1.042	1.8	584	281
12	856	1.09	277	2.489	2.2	391	252
13	1,297	1.66	638	0.318	1.3	992	465
14	1,370	1.75	711	0.245	1.2	1,167	499
GR	18,393	23.47	7,050	0.284	1.1	16,844	6,323
15	4,784	6.11	1,435	0.711	0.8	6,170	1,964
16	2,233	2.85	883	0.421	1.0	2,162	895
17	1,421	1.81	765	0.372	1.1	1,247	583
18	2,432	3.10	1,016	0.327	1.0	2,439	963
19	7,719	9.85	2,066	0.837	1.3	5,929	2,711
20	2,176	2.78	885	0.393	1.3	1,663	771
21	5,740	7.33	1,882	0.685	1.4	4,107	2,206
22	1,259	1.61	547	0.266	1.7	726	413
23	2,303	2.94	903	0.401	1.4	1,663	850
24	1,980	2.53	770	0.410	1.2	1,611	761
25	645	0.82	365	0.111	1.1	613	276
26	755	0.96	309	0.171	1.4	533	259
27	512	0.65	281	0.104	1.4	356	173
28	526	0.67	109	0.388	2.0	266	151
29	3,537	4.51	1,187	0.663	1.6	2,160	1,254
30	1,772	2.26	1,006	0.244	1.4	1,297	687
FA	39,794	50.79	14,408	0.438	1.2	32,943	14,915
31	1,938	2.47	443	0.769	1.3	1,501	653
32	466	0.59	227	0.167	1.4	338	163
33	1,078	1.38	433	0.277	1.2	915	372
34	889	1.13	349	0.165	1.4	635	322
35	452	0.58	217	0.173	1.4	316	136
36	1,072	1.37	462	0.207	1.4	789	387
37	1,515	1.93	643	0.134	1.0	1,489	589
38	693	0.88	362	0.108	1.1	632	283
39	802	1.02	447	0.105	0.9	874	290
40	1,141	1.46	517	0.211	1.8	640	402
41	709	0.91	480	0.098	1.3	565	315
42	155	0.20	226	0.021	0.4	369	78
43	510	0.65	234	0.075	0.7	696	200
44	894	1.14	481	0.195	1.3	674	379
45	1,602	2.05	503	0.209	2.0	789	540
46	374	0.48	159	0.063	1.2	311	120
47	745	0.95	375	0.130	1.0	744	311
PA	15,033	19.19	6,559	0.153	1.2	12,277	5,541
48	192	0.25	161	0.076	0.4	484	66
49	190	0.24	112	0.079	0.4	464	88
50	196	0.25	91	0.059	0.4	530	56
51	151	0.19	116	0.053	0.4	356	58
52	257	0.33	226	0.088	0.7	360	86
53	176	0.22	133	0.063	0.3	590	91
54	499	0.64	237	0.088	0.7	676	179
55	627	0.80	247	0.167	0.8	837	223
FF	2,289	2.92	1,324	0.087	0.5	4,297	848
56	119	0.15	119	0.025	0.1	1,115	49
57	105	0.13	91	0.032	0.3	375	35
58	137	0.18	81	0.061	0.6	217	53
59	154	0.20	70	0.026	0.4	416	53
60	140	0.18	42	0.037	0.4	336	60
61	0	0.00	14	0.000	0.0	39	0
62	350	0.45	114	0.094	0.6	608	147
63	522	0.67	210	0.092	0.5	1,087	174
64	49	0.06	77	0.014	0.1	389	35
65	119	0.15	63	0.018	0.4	287	42
66	56	0.07	21	0.005	0.2	316	18
67	389	0.50	299	0.045	0.3	1,365	175
68	49	0.06	53	0.012	0.2	218	25
69	91	0.12	77	0.012	0.2	625	42
70	238	0.30	56	0.028	0.7	343	60
71	77	0.10	35	0.004	0.4	203	21
72	0	0.00	7	0.000	0.0	123	0
73	224	0.29	49	0.005	0.6	354	63
FU	2,822	3.60	1,480	0.017	0.3	8,416	1,050
74	0	0.00	0	0.000	0.0	14	0
75	21	0.03	7	0.000	1.2	18	4
76	0	0.00	0	0.000	0.0	25	0
NS	21	0.03	7	0.000	0.4	56	4
T O T A L	78,352	100.00	30,829	0.010	1.1	74,833	28,680

* Hunter Days are based on all Upland Hunting.

* The Total Active Hunter value is NOT the true Provincial Total.

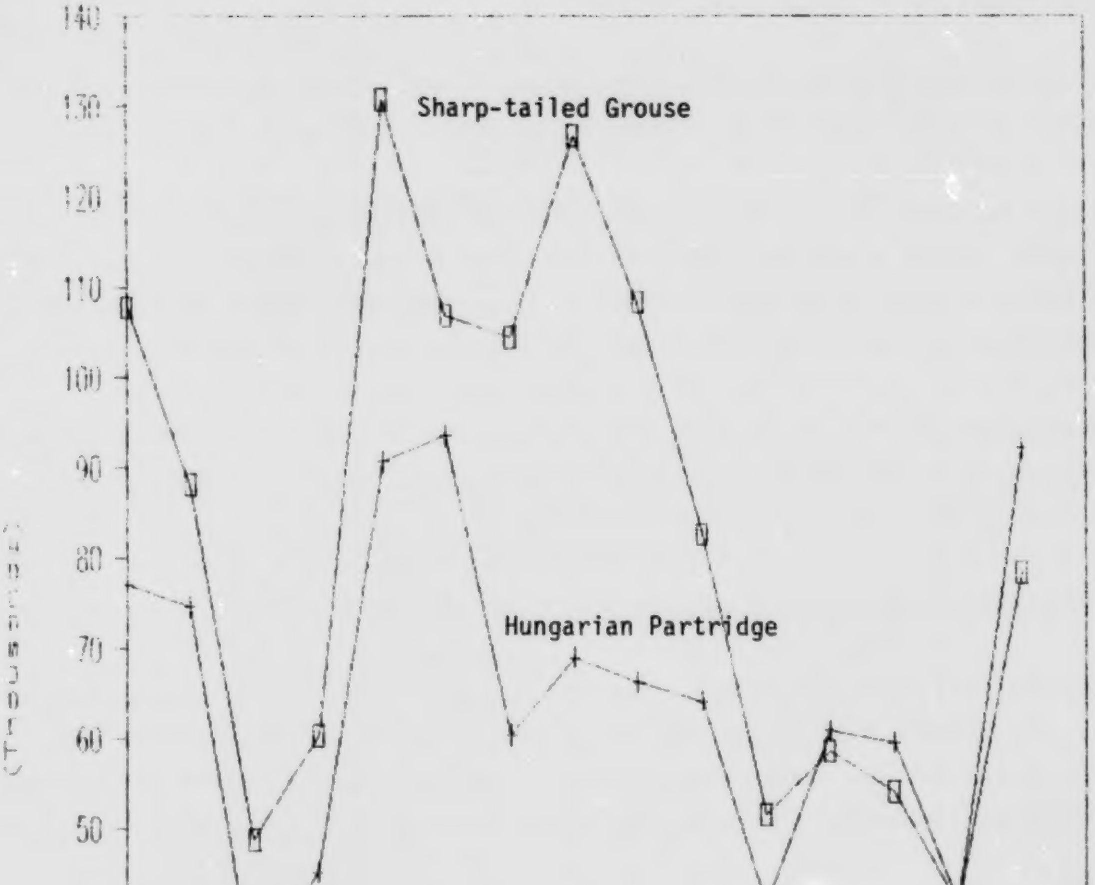

Figure 15. Saskatchewan Sharp-tailed Grouse and Hungarian Partridge Harvest (1972-1986)

1986 Sharp-tailed Grouse Reproduction

Sharptail reproduction, based on the young to adult ratio in a sample of the hunter harvest, remained above average in 1986 at 1.68 juveniles per adult (Table 108; Figure 18; Appendix 16, 17 and 18). This estimate represents a slight decrease (2%) in relation to 1985, but remains 22% above the 1975-1985 average, and 8% above the 1957-1983 long term average. Since 1978, only 1982 estimates showed better reproduction on a province-wide basis. Perhaps the most dramatic statistics reflecting the improved reproduction during recent years are the estimates for the grassland zones which rose from 0.53 young/adult in 1984, to 1.08 in 1985 and to 2.22 in 1986. The 1986 grassland ratio is more than double the 1975-1985 average ratio of 0.94 young per adult.

1987 Sharp-tailed Grouse Breeding Population

The 1987 provincial population index for breeding sharp-tailed grouse is 2.63 males/km^2 (Table 111; Figure 19), which represents an increase of 34% over 1986 levels for comparable survey areas. The Grassland, Farmland and Parkland surveys all reflected the provincial trend increase.

Provincially, sharptails have bounced back from the low breeding numbers of 1982-1985 to the higher levels which characterized the late 1970's (Appendix 19). The Grassland index of 2.86 males/km^2 is the highest on record reflecting excellent local reproduction in the summer of 1986.

Estimates from survey blocks in the Farmland Zones (15-30) outranked the Grassland Zone estimates slightly with the highest over-all density of breeding males (2.88/km^2). The highest densities for individual survey blocks also occurred in the Farmlands. The Duperow survey area showed a density of 4.61 males/km^2 while the Val Jean survey area had a density of 7.46 males/km^2 and the Goodwater survey area estimates increased to 5.47 males/km^2 (14.17/mi^2). The Tecumseh block in Zone 33 showed the highest individual density in the Parkland surveys with 4.42 males/km^2.

Table 108. Sharp-tailed Grouse Reproduction in Saskatchewan, 1981-1986
(Based on sample of wings from hunter-killed birds)

Wildlife Management Division	(Juvenile/Adult in Harvest)							% Change	
	1981	1982	1983	1984	1985	1975-85 Average	1986	1986 from 1985	1986 from Average (1975-1985)
Grassland	0.62	0.85	1.07	0.53	1.08	0.94	2.22	+106%	+136%
Farmland	0.81	2.19	1.62	1.06	1.94	1.54	1.60	-18%	+4%
Parkland	0.98	2.44	1.36	1.71	1.36	1.54	1.02	-25%	-34%
Forest Fringe plus Forest	0.62	2.50	0.58*	2.33	8.67*	2.67	3.29	-62%	+23%
Province	0.77	1.96	1.45	0.97	1.71	1.38 1.55**	1.68	-2%	+22% +8%**

* Sample less than 50 wings
**1957-1983 Average

Table 109. Sharp-tailed Grouse Hunting Data for Saskatchewan by Ecological Divisions, 1986 vs 1985

	Grassland Zones 1-14		Farmland Zones 15-30		Parkland Zones 31-47		Forest Fringe Zones 48-55		Forest Zones 56-73		Northern Shield Zones 74-76		Province Zones 1-76	
	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986
Sharptail Harvest	9,345	18,393	19,736	39,794	9,586	15,033	1,642	2,289	1,479	2,822	0	21	41,788	78,352
(% of Total)	22.4	23.5	47.2	50.8	22.9	19.2	3.9	2.9	3.5	3.6	0	0.03	100%	100%
Harvest Pressure (Sharptail kill/km²)	0.144	0.284	0.217	0.438	0.097	0.153	0.063	0.087	0.009	0.017	0	<0.001	0.067	0.125
All Upland Bird Hunter Days	10,666	16,844	16,720	32,943	7,201	12,277	2,302	4,297	3,230	8,416	28	56	40,145	74,833
(% of Total)	26.6	22.5	41.6	44.0	17.9	16.4	5.7	5.7	8.0	11.2	0.07	0.07	100%	100%
Species Hunter Days	3,716	6,323	8,023	14,915	3,810	5,541	658	848	576	1,050	0	4	16,783	28,680
(% of Total)	22.1	22.0	47.8	52.0	22.7	19.3	3.9	3.0	3.4	3.7	0	0.01	100%	100%
Hunting Pressure All Upland (Hunter days/km²)	0.165	0.260	0.184	0.363	0.073	0.125	0.088	0.164	0.020	0.051	<0.001	<0.001	0.064	0.119
Hunter Success (Sharptail kill/ Upland Hunter Day)	0.88	1.09	1.18	1.21	1.33	1.22	0.71	0.53	0.46	0.34	0.0	0.37	1.04	1.05
Hunter Success (Sharptail Kill/ Species Hunter Day)	2.51	2.91	2.46	2.67	2.52	2.71	2.50	2.70	2.57	2.69	0	5.25	2.49	2.73

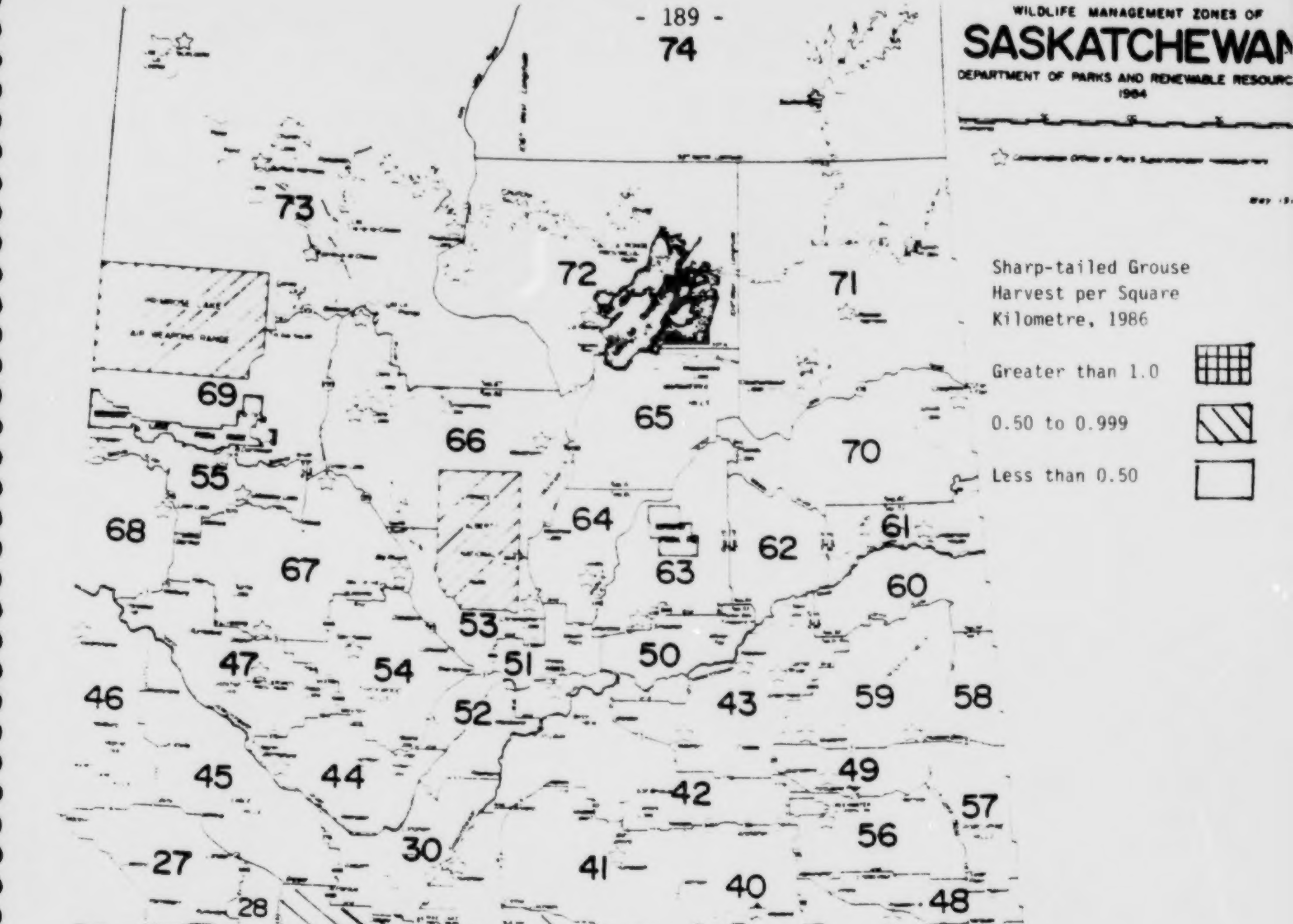
WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURC
1984
Sharp-tailed Grouse
Harvest per Square
Kilometre, 1986
Greater than 1.0
0.50 to 0.999
Less than 0.50
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Figure 16. Sharp-tailed grouse harvest density, 1986

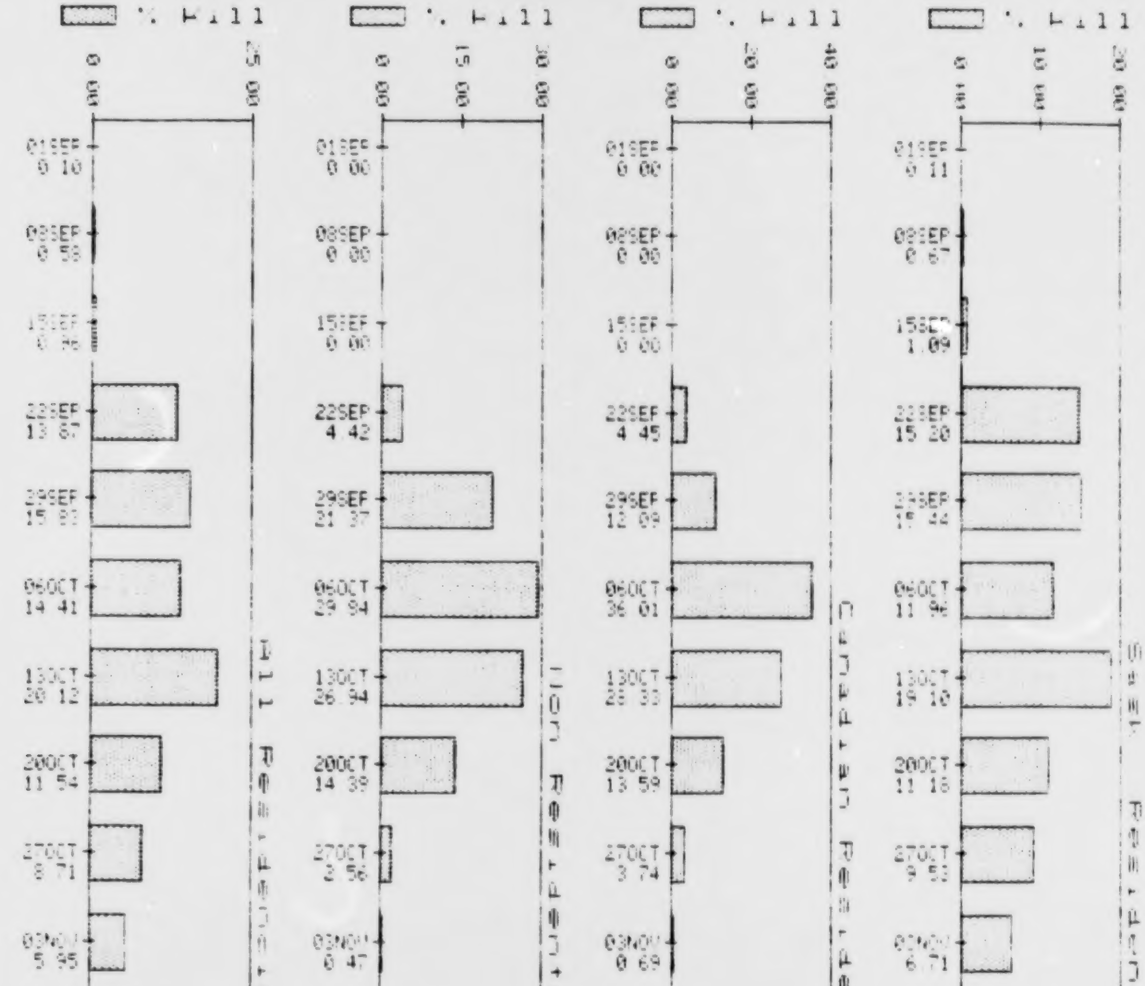

Figure 17. Saskatchewan 1986 Sharp-tailed Grouse Harvest by Weekly Intervals

Table 110. Most Important Sharp-tailed Grouse Harvest Zones in Saskatchewan, 1984-1986

Rank*	1984			1985			1986		
	Wildlife Mgmt. Zone	Sharptail Harvest/ Sq km Total Area	% of Provincial Harvest	Wildlife Mgmt. Zone	Sharptail Harvest/ Sq km Total Area	% of Provincial Harvest	Wildlife Mgmt. Zone	Sharptail Harvest/ Sq km Total Area	% of Provincial Harvest
1st	19	0.641	10.92	12	0.825	0.68	12	2.489	1.09
2nd	11	0.588	1.07	11	0.501	1.18	11	1.042	1.31
3rd	15	0.486	6.04	19	0.466	10.28	10	0.997	4.51
4th	35	0.423	2.04	10	0.353	3.00	19	0.837	9.85
5th	31	0.421	1.96	9	0.345	2.84	31	0.769	2.47
Total	Leading 5 Zones	0.540	22.03	Leading 5 Zones	0.429	17.98	Leading 5 Zones	0.907	19.23

*Ranked according to harvest density based on zone area in km^2; native habitat areas not yet available for 76 Wildlife Management Zones.

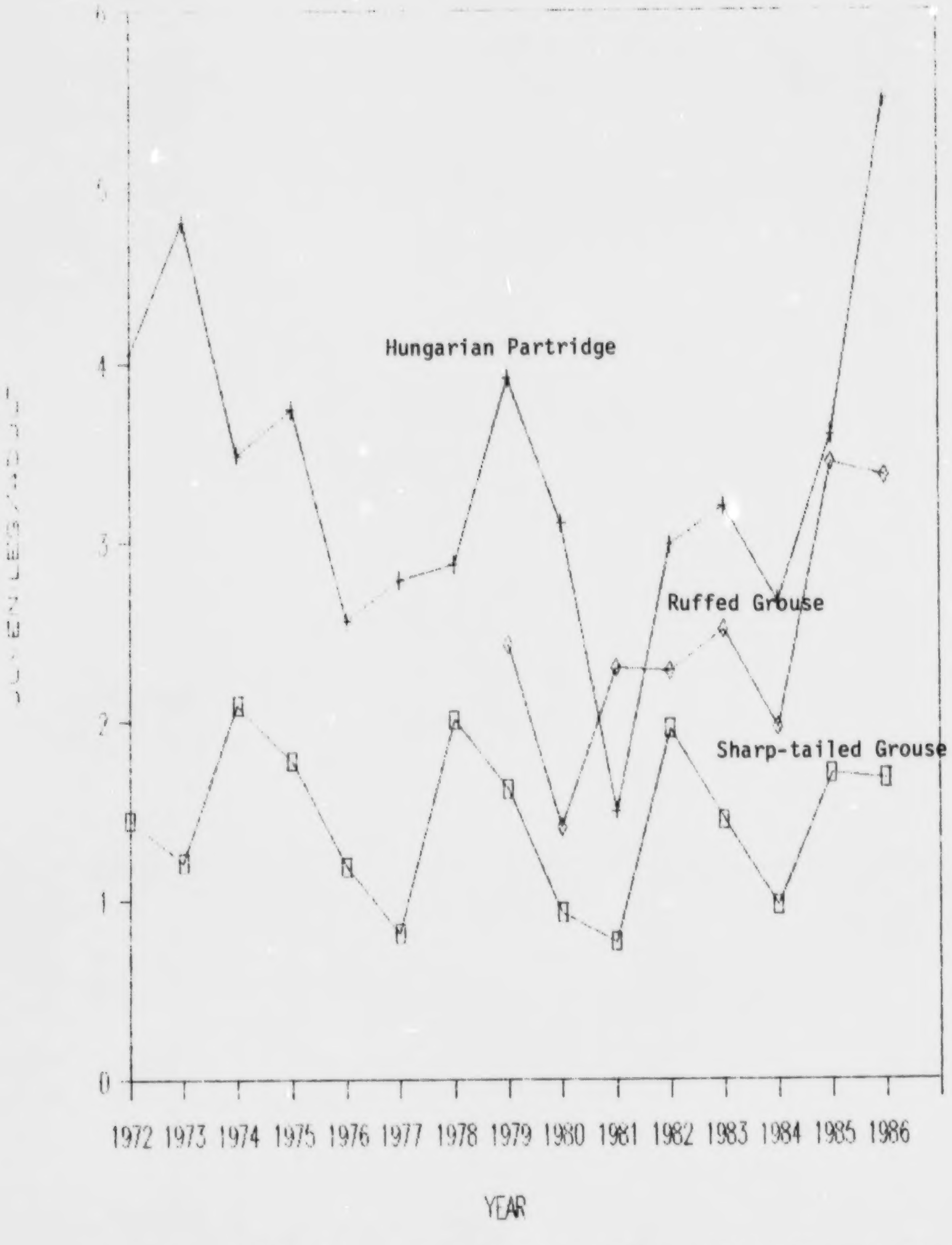

Figure 18. Saskatchewan Upland Game Bird Fall Age Ratios (Reproduction Index) 1972-1986

Table 111. Saskatchewan sharp-tailed grouse breeding population surveys, spring 1987

Wildlife Management Zone	Surveyed Area	Area Surveyed (Sq. km)	Breeding Males/Square km 1984	1985	1986	1987 (Sq. Mi.)
1	Amulet	51.8	1.10	0.44	1.24	2.12 (5.50)
4	Meyronne	41.4	1.20	0.97	1.13	3.28 (8.50)
5	Turkey Track	41.4	--	0.97	2.34	2.80 (7.25)
9	Bowies Ranch	49.2	--	0.90	1.24	2.56 (6.63)
10	North Great Sandhills	49.2	2.40	1.64	2.30	2.95 (7.63)
10	Elkinks	41.4	--	0.87	--	4.20 (10.87)
11	Burstall	41.4	--	--	--	2.34 (6.06)
GRASSLAND		316	1.58	0.96	1.64	2.86 (7.41) +66%*
15	Goodwater	46.6	3.64	2.18	3.17	5.47 (14.17)
16	Wellington	44.0	--	--	3.79	2.88 (7.47)
17	Indian Head South	41.4	1.23	0.91	1.66	1.64 (4.25)
19	Mortlach	49.2	2.95	1.97	1.62	2.57 (6.65)
19	Val Jean	49.2	--	3.72	4.39	7.46 (19.31)
20	Bethune	57.0	1.12	0.68	0.81	0.88 (2.27)
21	Gibbs	41.4	1.83	1.03	1.28	1.57 (4.06)
21	Last Mountain Lake	38.8	--	0.64	1.59	1.90 (4.93)
22	Bradwell	62.2	--	0.75	0.82	1.32 (3.42)
23	Elbow	41.4	--	2.22	2.80	3.64 (9.44)
26	Alsask	49.2	1.81	1.46	2.50	3.23 (8.37)
28	Duperow	36.3	3.17	--	4.96	4.61 (11.93)
29	Goose Lake	55.7	1.19	1.08	1.52	2.03 (5.26)
30	Asquith	31.1	0.47	0.90	1.22	1.42 (3.67)
FARMLAND		643.6	1.94	1.47	2.22	2.88 (7.46) +30%*
31	Coalfields	43.4	--	--	--	2.74 (7.10)
33	Tecumseh	51.8	2.49	1.66	2.90	4.42 (11.45)
34	Moosomin South	69.9	1.22	0.63	1.29	0.89 (2.30)
38	Fort Block	62.2	1.42	1.00	1.32	1.75 (4.54)
39	Goodspirit	41.4	0.73	--	2.05	2.29 (5.94)
40	Quill Lakes	41.4	1.03	0.89	0.87	1.08 (2.81)
45	Aroma Lake	46.6	1.13	1.03	--	0.90 (2.33)
PARKLAND		356.8	1.37	1.02	1.66	1.96 (5.09) +22%*
PROVINCE (28 survey blocks)		1316.4 km²	1.67	1.24	1.97	2.63 (6.81) +34%

* Percent difference in 1987 sharptail density figures compared to 1986; based on comparable survey blocks only.

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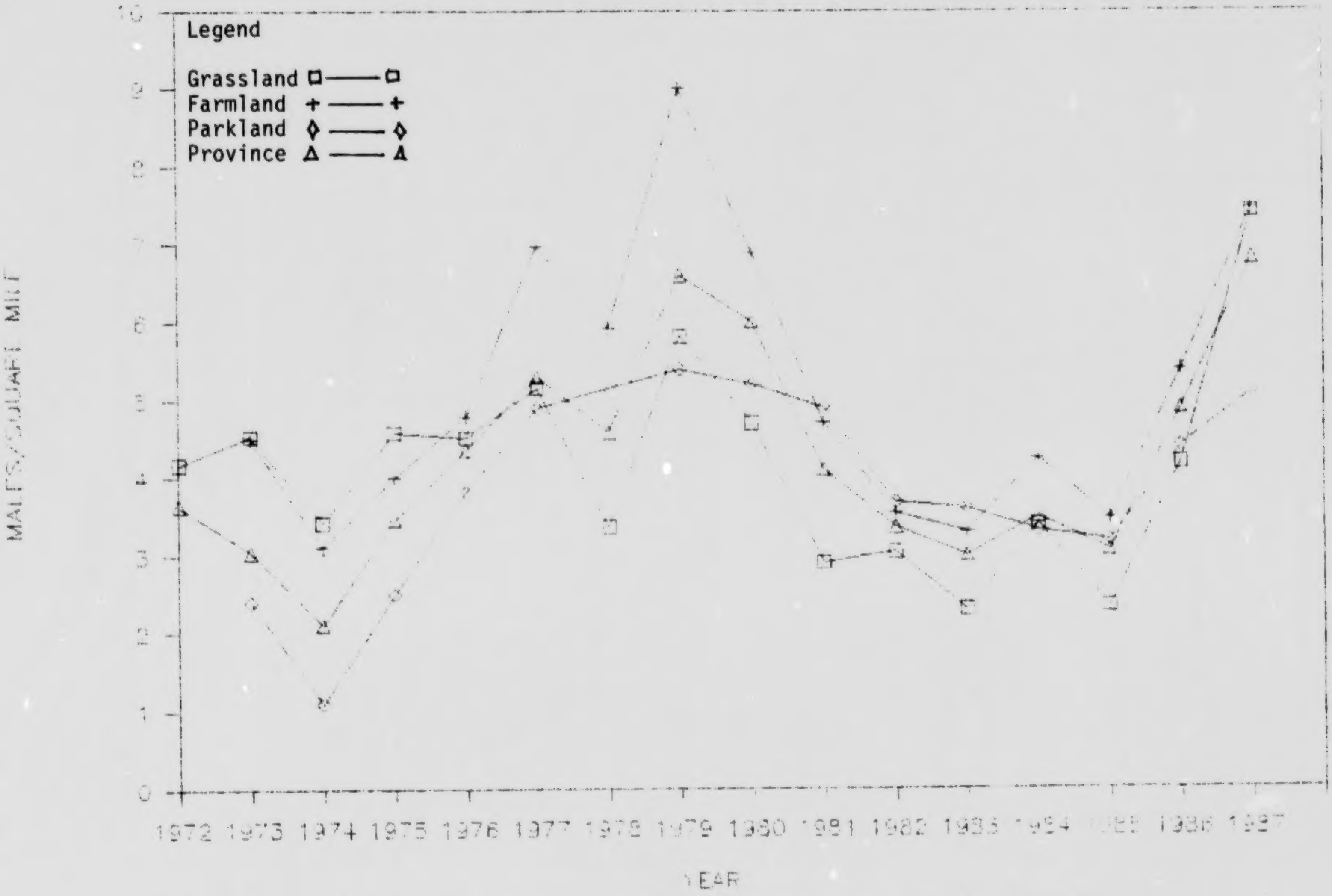

Figure 19. Sharp-tailed Grouse Breeding Populataion Trends, 1972-1987

Discussion - Sharp-tailed Grouse 1987

The provincial sharptail population showed good brood production during the summers of 1985 and 1986. Spring surveys in 1987 have also shown an increase in the number of breeding males in 20 of the 24 comparable survey blocks.

Nesting success and brood survival in 1987 is expected to equal that of 1986. Abundant fall rains in 1986 are believed to have produced luxuriant vegetation for nesting and brood cover in much of the Grassland and Farmland area.

Habitat loss due to breaking of native grassland for cereal cropping and tame forage will continue to negatively impact sharp-tailed grouse populations in the future. However, present conditions on intact habitat areas are felt to be excellent.

The 1987 season recommendation is to increase the bag limits for sharp-tailed grouse to five birds per day in the Grasslands, Farmlands and the southeastern portion of the Parklands. Populations remain at adequate levels to maintain the traditional opening of southern zones one week earlier (similar to 1986). A September 21, 1987 opening will also coincide with the proposed opening date for Hungarian Partridge and Ruffed Grouse in southern zones. Bag limits of three birds per day are proposed in Zones 20-22, 30 and 34 to 37 due to the proximity of these zones to urban hunters, lower breeding numbers or lack of good reproduction in 1986.

1987 Sharp-tailed Grouse Hunting Regulations*

WMZ Open	Season Dates (Inclusive)	Bag Limit
Zones 1-19, 23-29, 31-33 and starting Oct. 7 Elbow, Estevan-Cambria and Lomond #3 Wildlife Management Units	Sept. 21 - Nov. 14	5 daily 10 possession
Zones 20-22, 30 and 34-47 including Last Mountain Lake Wildlife Management Unit	Sept. 21 - Nov. 14	3 daily 6 possession

Zones 48-76 including Clear-Water River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne Wildlife Management Unit and Bronson Forest Recreation site	Sept. 14 - Nov. 28	3 daily 6 possession

* Non-residents of Canada may not hunt sharp-tailed grouse in Zones 9-14 and 25-28.

HUNGARIAN PARTRIDGE

1986 Hunting Activity and Harvest

For the fourth consecutive year, the reported Hungarian partridge harvest surpassed the sharp-tailed grouse harvest (Figure 15; Appendix 20). A total of 92,270 partridge were harvested in the fall of 1986 which is 47% above the 1972-85 average (Tables 112, 113). The number of active partridge hunters increased by 40% to 17,964 and harvest increased to 5.1 birds per active hunter which is 59% above the 14-year average and the highest level in 15 years. Partridge hunter success rose to 1.4 birds/day which is 18% higher than the long-term average. The chronology and distribution of the harvest are illustrated in Figures 20 and 21 respectively. Twenty nine percent (29%) of the harvest occurred during the first two weeks of the 1986 season.

Harvest pressure (partridge harvested/km^2) increased in the Grasslands (0.26 to 0.43), Farmlands (0.24 to 0.61) and Parklands (0.04 to 0.09; Table 114). The Farmland zones continued to contribute a high proportion of the total harvest (60% compared to 51% in 1985). Hunter success (harvest per species hunter day) was highest in the Grasslands with 4.05 birds per hunter day versus 3.62 birds per day in the Farmlands (Table 114).

The five top partridge zones in 1986 are listed in Table 115 and accounted for 37% of the provincial harvest. Zones 5, 15 and 19 ranked in the top 5 in 1984, 1985 and again in 1986.

1986 Hungarian Partridge Reproduction

Provincially the 1986 production index (estimated by analysis of wing samples from the harvest) was 5.50 young/adult, which is 53% above the 1985 index of 3.60 (Table 116, Appendix 21) and the highest on record (Appendix 22). The Grassland index increased by 49% to 5.07 from 3.40 in 1985. The 1986 Farmland index of 5.70 is 72% above the 1975-85 average of 3.32 young/adult and 47% higher than the 1985 estimate. The Parkland index of 6.40 was derived from a small sample size (37 wings) and as a result may exaggerate the actual 1986 reproduction in this ecological division. (Sample sizes of less than 50 wings statistically unreliable.)

Table 112 Hungarian Partridge Hunting Data for Saskatchewan*, 1972-1986

Year	Hunting Level Active Hungarian Partridge Hunters	Hunting Level Upland Bird Hunter Days Zones 1-22 (1972-83) Zones 1-55 (1984-86)	Hunting Success Upland Hunter Days/Active Partridge Hunter	Hunting Success Hungarian Partridge Harvest	Hunting Success Partridge Harvest/ Active Hunter	Hunting Success Partridge Harvest/ Upland Hunter Day
1972	23,360	49,692	2.1	77,093	3.3	1.55
1973	20,741	50,827	2.5	74,668	3.6	1.47
1974**	15,276	33,722	2.2	33,608	2.2	1.00
1975**	17,356	39,353	2.3	45,125	2.6	1.15
1976**	22,835	73,458	3.2	90,897	4.0	1.24
1977**	25,535	78,289	3.1	93,616	3.7	1.20
1978	21,320	58,514	2.7	60,585	2.8	1.04
1979	21,041	59,801	2.8	69,127	3.3	1.16
1980	20,698	61,856	3.0	66,349	3.2	1.07
1981	19,617	57,149	2.9	64,349	3.3	1.13
1982	17,056	43,995	2.6	41,743	2.4	0.95
1983	19,014	54,452	2.9	61,073	3.2	1.12
1984	15,511	42,219	2.7	59,794	3.9	1.42
1985	12,867	36,889	2.9	41,998	3.3	1.14
1972-1985 Average	19,445	52,873	2.7	62,857	3.2	1.19
1986	17,964	65,911	3.7	92,270	5.1	1.40
% Change						
1986 from 1985	+40%	+79%	+28%	+120%	+55%	+23%
1986 from Average	-8%	+25%	+37%	+47%	+59%	+18%

* Forest and Shield Division excluded from data because of insignificance to Hungarian partridge hunting. (No open season in WMZ 56-77)

**Inaccurate data was published for these years prior to 1979 corrections.

Table 113. Hungarian Partridge Harvest and Hunting Pressure by Wildlife Management Zone 1986

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	3,109	3.37	563	0.374	2.2	1,421	678
2	2,660	2.89	596	0.250	1.5	1,820	611
3	126	0.14	84	0.029	2.8	46	28
4	6,811	7.39	1,303	0.839	1.8	3,702	1,691
5	5,261	5.71	1,047	0.882	1.9	2,786	1,253
6	534	0.58	198	0.127	1.5	369	123
7	94	0.10	74	0.049	0.7	130	43
8	1,299	1.41	203	0.383	2.6	509	266
9	2,083	2.26	511	0.606	1.8	1,144	493
10	2,303	2.50	766	0.649	1.3	1,784	612
11	473	0.51	213	0.480	0.8	584	143
12	350	0.38	175	1.018	0.9	391	120
13	1,533	1.66	633	0.375	1.6	992	419
14	1,392	1.51	595	0.249	1.2	1,167	445
GR	28,029	30.41	6,962	0.433	1.7	16,844	6,925
15	12,236	13.28	1,610	1.820	2.0	6,170	2,834
16	3,876	4.21	956	0.730	1.8	2,162	1,146
17	1,430	1.55	628	0.374	1.2	1,247	576
18	5,252	5.70	1,151	0.705	2.2	2,439	1,308
19	12,952	14.05	2,129	1.405	2.2	5,929	3,004
20	2,761	3.00	864	0.499	1.7	1,663	741
21	4,822	5.23	1,615	0.575	1.2	4,107	1,689
22	922	1.00	407	0.195	1.3	726	255
23	2,451	2.66	868	0.427	1.5	1,663	791
24	2,190	2.38	779	0.454	1.4	1,611	818
25	941	1.02	396	0.162	1.5	613	314
26	756	0.82	317	0.171	1.4	533	241
27	473	0.51	199	0.096	1.3	356	143
28	538	0.58	134	0.397	2.0	266	115
29	2,340	2.54	1,021	0.439	1.1	2,160	794
30	1,155	1.25	832	0.159	0.9	1,297	434
FA	55,094	59.78	13,904	0.607	1.7	32,943	15,200
31	2,934	3.18	463	1.164	2.0	1,501	736
32	432	0.47	187	0.155	1.3	338	145
33	532	0.58	299	0.137	0.6	915	211
34	309	0.33	232	0.057	0.5	635	117
35	154	0.17	84	0.059	0.5	316	77
36	865	0.94	386	0.167	1.1	789	287
37	635	0.69	411	0.056	0.4	1,489	204
38	434	0.47	339	0.068	0.7	632	158
39	292	0.32	221	0.038	0.3	874	80
40	305	0.33	224	0.056	0.5	640	118
41	313	0.34	330	0.043	0.6	565	147
42	285	0.31	198	0.038	0.8	369	91
43	63	0.07	70	0.009	0.1	696	28
44	387	0.42	267	0.085	0.6	674	131
45	366	0.40	282	0.048	0.5	789	136
46	156	0.17	98	0.026	0.5	311	56
47	260	0.28	180	0.045	0.4	744	122
PA	8,723	9.46	4,272	0.089	0.7	12,277	2,845
48	91	0.10	14	0.036	0.2	484	25
49	21	0.02	35	0.009	0.1	464	11
50	14	0.02	14	0.004	0.0	530	7
51	0	0.00	28	0.000	0.0	356	0
52	63	0.07	91	0.022	0.2	360	18
53	28	0.03	35	0.010	0.1	590	7
54	84	0.09	65	0.015	0.1	676	47
55	21	0.02	28	0.006	0.0	837	11
FI	323	0.35	310	0.012	0.1	4,297	125
56	0	0.00	0	0.000	0.0	1,115	0
57	0	0.00	0	0.000	0.0	375	0
58	0	0.00	0	0.000	0.0	217	0
59	0	0.00	0	0.000	0.0	416	0
60	0	0.00	0	0.000	0.0	336	0
61	0	0.00	0	0.000	0.0	39	0
62	0	0.00	0	0.000	0.0	608	0
63	0	0.00	0	0.000	0.0	1,087	0
64	0	0.00	0	0.000	0.0	389	0
65	0	0.00	0	0.000	0.0	287	0
66	0	0.00	0	0.000	0.0	316	0
67	0	0.00	0	0.000	0.0	1,365	0
68	0	0.00	0	0.000	0.0	218	0
69	0	0.00	0	0.000	0.0	625	0
70	0	0.00	0	0.000	0.0	343	0
71	0	0.00	0	0.000	0.0	203	0
72	0	0.00	0	0.000	0.0	123	0
73	0	0.00	0	0.000	0.0	354	0
FO	0	0.00	0	0.000	0.0	8,416	0
74	0	0.00	0	0.000	0.0	14	0
75	0	0.00	0	0.000	0.0	18	0
76	0	0.00	0	0.000	0.0	25	0
NS	0	0.00	0	0.000	0.0	56	0
T O T A L	92,169	100.00	25,448	0.010	1.2	74,833	25,094

* Hunter Days are based on all Upland Hunting.
* The Total Active Hunter value is NOT the true Provincial Total.

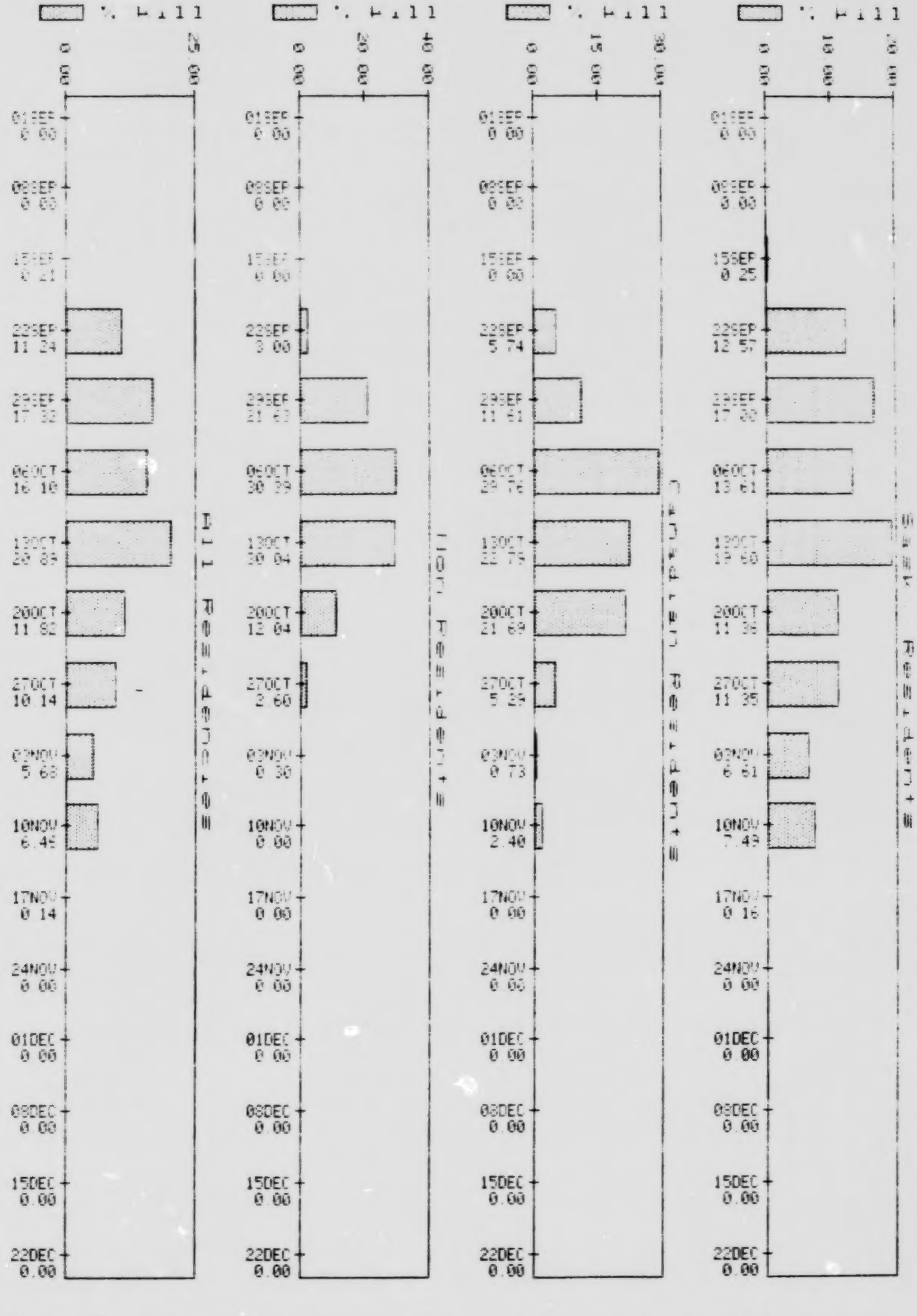

Figure 20. Saskatchewan 1986 Hungarian Partridge Harvest by Weekly Intervals

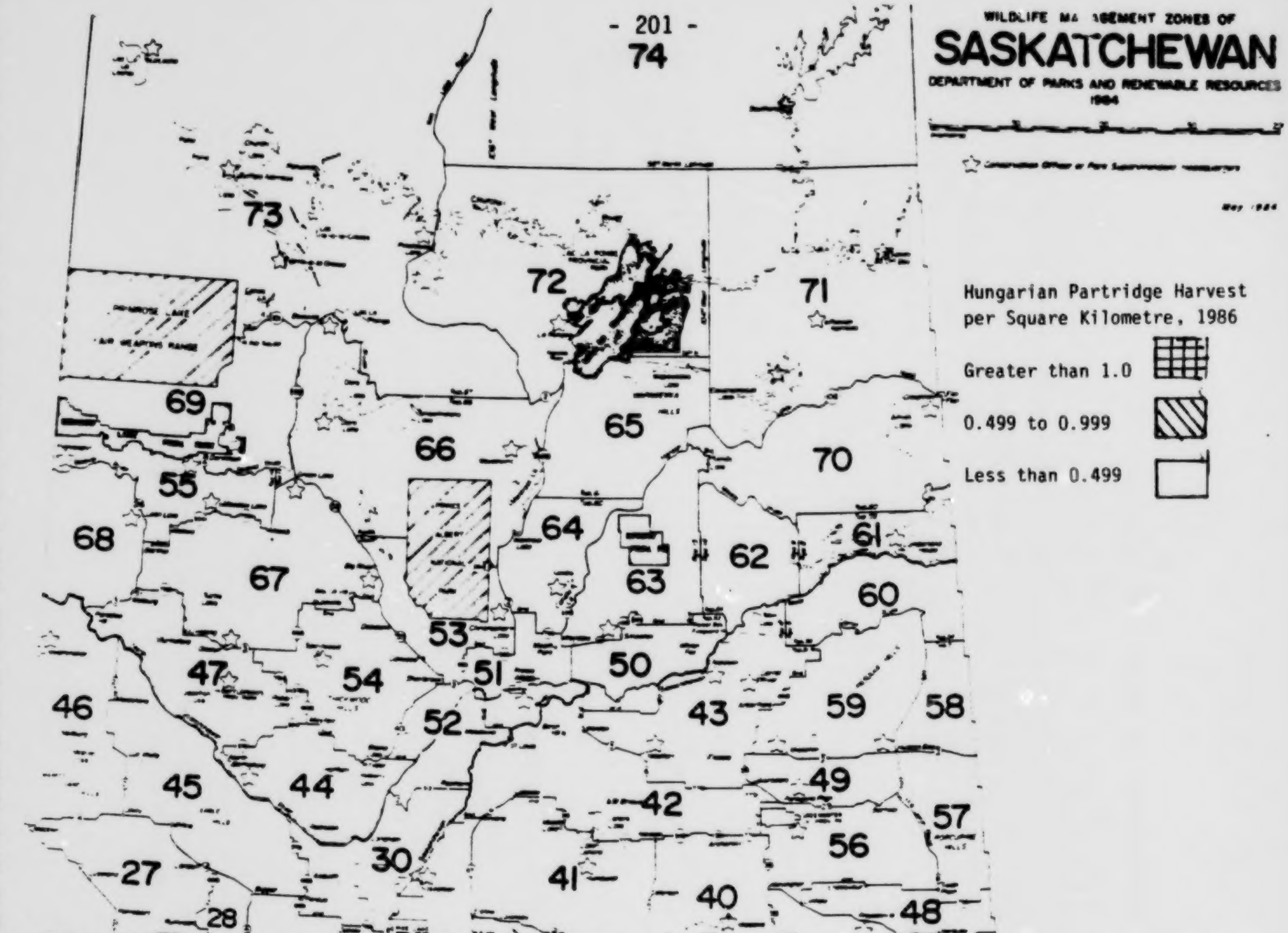
WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
1984
Conservation Officer or Park Superintendent headquarters
May 1984
Hungarian Partridge Harvest per Square Kilometre, 1986
Greater than 1.0
0.499 to 0.999
Less than 0.499
PRIMROSE LAKE AIR WEAPONS RANGE
74
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Figure 21. Saskatchewan Hungarian partridge harvest density, 1986

Table 114. Hungarian Partridge Hunting Data for Saskatchewan by Ecological Division, 1986 vs 1985

	Grassland Zones 1-14		Farmland Zones 15-30		Parkland Zones 31-47		Forest Fringe Zones 48-55		Province*	
	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986
Harvest (% of Total)	16,668 39.7	28,029 30.4	21,443 51.1	55,094 59.8	3,670 8.7	8,723 9.5	218 0.05	323 0.35	41,998 100%	92,169 100%
Harvest Pressure (kill/sq km)	0.257	0.433	0.236	0.607	0.037	0.089	0.008	0.012	0.150*	0.33
Upland Bird Hunter Days (% of Total)	10,666 28.9	16,844 25.6	16,720 45.3	32,943 50.0	7,201 19.5	12,277 18.6	2,302 6.2	4,297 6.5	36,889* 100%	65,911* 100%
Species Hunter Days (% of Total)	4,559 34.2	6,925 27.6	7,176 53.8	15,200 60.6	1,520 11.4	2,845 11.3	91 0.7	125 0.5	13,347 100%	25,095 100%
Hunting Pressure (Upland Hunter Days/ sq km)	0.165	0.260	0.184	0.363	0.073	0.125	0.088	0.164	0.132	0.235
Hunter Success (Kill/Upland Hunter Day)	1.56	1.66	1.28	1.67	0.51	0.71	0.09	.075	1.14	1.40
Hunter Success (Kill/Species Hunter Day)	3.66	4.05	2.99	3.62	2.41	3.07	2.40	2.58	3.15	3.67

*Forest and Northern Shield Divisions excluded from hunter days and area (km^2) calculations; Hungarian Partridge are essentially absent from these areas and partridge hunting is not permitted.

Table 115. Most Important Hungarian Partridge Harvest Zones in Saskatchewan, 1984-1986

	1984			1985			1986		
Rank*	Wildlife Mgmt. Zone	Partridge Harvest/ km^2	% of Provincial Harvest	Wildlife Mgmt. Zone	Partridge Harvest/ km^2	% of Provincial Harvest	Wildlife Mgmt. Zone	Partridge Harvest/ km^2	% of Provincial Harvest
1st	11	0.761	1.25	19	0.604	13.27	15	1.820	13.28
2nd	4	0.646	8.77	15	0.570	9.13	19	1.405	14.05
3rd	5	0.642	6.41	5	0.528	7.50	31	1.164	3.18
4th	15	0.620	6.98	4	0.515	9.95	12	1.018	0.38
5th	19	0.568	8.76	9	0.425	3.48	5	0.882	5.71
Total	Leading 5 Zones	0.620	32.17	Leading 5 Zones	0.540	43.33	Leading 5 Zones	1.360	36.60

*Zones ranked according to harvest density based on zone area (km^2)

Table 116. Hungarian Partridge Reproduction in Saskatchewan, 1981-1986
(Based on wing samples from harvest)

Wildlife Management Division	(Juvenile/Adult in Harvest)							% Change	
	1981	1982	1983	1984	1985	1975-85 Average	1986	1986 from 1985	1986 from Average (1975-1985)
Grassland	1.38	5.00*	2.38	2.13	3.40	2.75	5.07	+49%	+84%
Farmland	1.52	2.86	3.46	3.42	3.88	3.32	5.70	+47%	+72%
Parkland	1.46*	3.50*	6.00*	3.10	3.67*	3.61	6.40*	+74%	+77%
Province	1.50	2.99	3.21	2.67	3.60	3.00 3.00**	5.50	+53%	+83% +83%**

* Sample less than 50 wings
**1957-1983 Average

026

Age ratio data from Hungarian partridge wing samples has been collected since 1957. The 1986 index of 5.50 is the best reproduction recorded to date with the previous high being 5.29 young per adult recorded in 1962.

1987 Hungarian Partridge Breeding Population

Spring surveys of 377 abandoned farmsteads show a provincial index of 1.03 pair of partridge per farmstead (Table 117), up by 81% in relation to 1986 surveys and the highest density estimate since breeding surveys were initiated. The above-average reproduction in 1985 and 1986 in the Grasslands, Farmlands and Parklands, and the mild winter of 1986-87 are believed to have produced the partridge population increases in the Farmlands and Parklands.

Summary

The 1987 spring counts give cause for optimism. Expansion of the 10 birds daily bag limit to include Zones 16, 17, 22 to 24 and 29 is warranted in 1987 due to high populations in these zones. Zones 30 and 32 to 34 can also withstand a bag limit increase to 5 birds per day.

Hungarian partridge hunting and harvest increased significantly in 1986 and rose above the 14-year average. It is felt that this increase was mainly due to increased hunter activity (days) and increased populations in the Grasslands, Farmlands and Parklands. The continued improvement of populations should produce a banner year for partridge hunters in 1987.

1987 Hunting Regulations - Hungarian Partridge*

WMZ Open	(Inclusive)	Bag Limit
Zones 1-19, 22-24, 29, 31 and starting Oct. 7, Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Sept 21 - Nov 14	10 daily 20 possession
Zones 20, 21, 25-28, 30, 32, 33, and 34 including Last Mountain Lake Wildlife Management Unit	Sept 21 - Nov 14	5 daily 10 possession

Zones 35-55, including Fort a la Corne Wildlife Management Unit	Sept 21 - Nov 14	3 daily 6 possession

* Non-residents of Canada may not hunt Hungarian partridge in Zones 9-14 and 25-28.

Table 117. Hungarian Partridge Breeding Population Surveys, Spring 1987

Wildlife Management Zone	Pairs/Farmstead 1984	1985	1986	Number of Farmsteads Surveyed	1987 Pairs/ Farmstead
1	--	0.80	1.50	15	2.00
2	--	--	--	33	1.30
4	0.52	1.03	0.80	41	1.71
5	--	--	--	11	2.00
9	--	0.67	0.67	14	0.78
10	0.50	0.63	0.27	16	0.38
11	--	--	--	4	1.00
13	--	--	--	15	0.73
14	0.73	--	0.33	12	1.42
GRASSLAND	0.56	0.84	0.76	161	1.31 +72%*
15	0.35	0.21	0.53	19	0.95
17	--	--	--	14	0.86
18	0	0.22	0.90	19	0.63
19	--	0.50	0.50	20	1.40
21	0.65	0.10	0.25	20	0.45
22	--	0.12	0.33	6	1.00
23	0.80	0.40	0.55	20	0.95
24	--	0.15	0.45	20	1.00
25	0.53	0.26	0.27	16	0.69
26	0.28	0.20	0.40	10	0.40
28	0.33	--	--	15	0.20
29	--	--	0.42	13	1.08
30	--	--	--	4	0.50
FARMLAND	0.53	0.24	0.43	196	0.80 +86%*
31	--	--	0.82	20	0.85
PROVINCE	0.54	0.41	0.57	377	1.03 +81%*

*Percent difference in 1987 density figures compared to 1986, based on surveys done in comparable zones.

PHEASANT

1986 Hunting Activity and Harvest

An estimated 4,770 Saskatchewan pheasant hunters participated in the 1986 pheasant season compared to 3,700 in 1985 (Table 118; Appendix 23). The traditional late season was cancelled in 1986 due to concerns over perceived low populations raised at the 1986 Wildlife Advisory Committee meeting. Active pheasant hunters harvested 10,557 cock pheasants which is 10% below the ten-year average (Tables 118 and 119; Figure 22). Active hunters increased by 29% and pheasant hunter days by 50% from 1985 levels. Hunting success in terms of cocks harvested per hunter day remained at 2.12 birds per day which is 15% above the 10-year average of 1.85 (Table 118).

Zone 15 and Zone 4 were again the most important pheasant hunting areas (Table 120; Figure 23) providing half the provincial harvest and pheasant hunter recreation days. Zones 2 and 5 again contributed 27% of the harvest. Hunter success was virtually equal in these four zones with 2.11 to 2.15 cocks harvested per species hunter day. About 31% of the total harvest occurred during the opening week (October 1-8) compared to 44% in 1984 and 33% in 1985 (Figure 24).

1987 Breeding Populations - Pheasant

The winter of 1986-87 was one of the mildest on record and snowfall was below normal throughout the prime pheasant range. Population levels have increased dramatically over last year. The provincial spring breeding index has increased to 4.86 crows heard per survey stop (Table 121, Figure 25). This represents an increase of 176% in relation to 1986 and an increase of 167% in relation to 1985, based on comparable surveys. All 14 survey areas showed major increases in the number of breeding males over 1986 figures, with the Moose Jaw South route showing the smallest upward trend (+12%) from levels estimated during 1986 spring surveys. Grass and shrub cover along drainages has returned to average condition due to good fall moisture in 1986. This improvement in habitat quality will afford increased nest cover for breeding hens and escape cover for young broods.

Table 118. Pheasant Hunting Data for Saskatchewan*, 1976-1986

	Hunting Level			Hunting Success		
Year	Active Pheasant Hunters	Pheasant Hunter Days	Pheasant Hunter Days/ Active Hunter	Pheasant Harvest	Pheasants Harvested/ Active Pheasant Hunter	Pheasants Harvested/ Pheasant Hunter Day
1976	4,619	7,421	1.6	14,488	3.1	1.95
1977	5,726	9,718	1.7	19,097	3.3	2.05
1978	4,476	6,107	1.4	10,165	2.3	1.66
1979	3,441	4,390	1.3	7,060	2.1	1.61
1980	4,150	5,876	1.4	11,823	2.8	2.01
1981	4,825	7,052	1.5	12,536	2.6	1.78
1982	3,915	5,772	1.5	7,511	1.9	1.30
1983	6,348	9,313	1.5	15,857	2.5	1.70
1984	4,975	4,870	1.0	12,182	2.4	2.50
1985	3,704	3,325	0.9	7,084	1.9	2.13
1976-1985 Average	4,618	6,384	1.4	11,780	2.6	1.85
1986	4,767	4,991	1.0	10,557	2.2	2.12
% Change						
1986 from 1985	+29%	+50%	+11%	+49%	+16%	-.5% (no change)
1986 from Average	+3%	-22%	-29%	-10%	-15%	+15%

*Province defined as Wildlife Management Zones 1 to 36 (1984-1986); the only zones in which a pheasant season is currently held.

Table 119. Saskatchewan Pheasant Harvest and Hunting Pressure by Wildlife Management Zone 1986

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days	WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	254	2.41	212	0.031	0.2	1,421	106	41	0	0.00	0	0.000	0.0	565	0
2	1,250	11.84	649	0.117	0.7	1,820	582	42	0	0.00	0	0.000	0.0	369	0
3	7	0.07	14	0.002	0.2	46	7	43	0	0.00	0	0.000	0.0	696	0
4	2,439	23.12	1,202	0.301	0.7	3,702	1,158	44	0	0.00	0	0.000	0.0	674	0
5	1,619	15.35	736	0.271	0.6	2,786	763	45	0	0.00	0	0.000	0.0	789	0
6	158	1.49	125	0.038	0.4	369	61	46	0	0.00	0	0.000	0.0	311	0
7	54	0.51	59	0.029	0.4	130	24	47	0	0.00	0	0.000	0.0	744	0
8	75	0.71	73	0.022	0.2	509	38	PA	212	2.01	184	0.002	0.0	12,277	78
9	19	0.18	45	0.006	0.0	1,144	13								
10	75	0.71	73	0.021	0.0	1,784	31	48	0	0.00	0	0.000	0.0	484	0
11	319	3.02	139	0.324	0.6	584	149	49	0	0.00	0	0.000	0.0	464	0
12	19	0.18	38	0.056	0.1	391	6	50	0	0.00	0	0.000	0.0	530	0
13	217	2.06	222	0.053	0.2	992	87	51	0	0.00	0	0.000	0.0	356	0
14	321	3.04	309	0.057	0.3	1,167	177	52	0	0.00	0	0.000	0.0	360	0
GR	6,828	64.71	3,897	0.105	0.4	16,844	3,200	53	0	0.00	0	0.000	0.0	590	0
								54	0	0.00	0	0.000	0.0	676	0
15	2,801	26.54	1,119	0.416	0.5	6,170	1,325	55	0	0.00	0	0.000	0.0	837	0
16	144	1.36	125	0.027	0.1	2,162	72	FI	0	0.00	0	0.000	0.0	4,297	0
17	7	0.07	28	0.002	0.0	1,247	4								
18	224	2.13	250	0.030	0.1	2,439	119	56	0	0.00	0	0.000	0.0	1,115	0
19	168	1.59	264	0.018	0.0	5,929	91	57	0	0.00	0	0.000	0.0	375	0
20	74	0.70	97	0.013	0.0	1,663	37	58	0	0.00	0	0.000	0.0	217	0
21	0	0.00	14	0.000	0.0	4,107	0	59	0	0.00	0	0.000	0.0	416	0
22	0	0.00	0	0.000	0.0	726	0	60	0	0.00	0	0.000	0.0	336	0
23	40	0.38	59	0.007	0.0	1,663	20	61	0	0.00	0	0.000	0.0	39	0
24	12	0.12	38	0.003	0.0	1,611	10	62	0	0.00	0	0.000	0.0	608	0
25	14	0.13	14	0.002	0.0	613	4	63	0	0.00	0	0.000	0.0	1,087	0
26	7	0.07	7	0.002	0.0	533	11	64	0	0.00	0	0.000	0.0	389	0
27	0	0.00	7	0.000	0.0	356	0	65	0	0.00	0	0.000	0.0	287	0
28	0	0.00	0	0.000	0.0	266	0	66	0	0.00	0	0.000	0.0	316	0
29	14	0.13	28	0.003	0.0	2,160	14	67	0	0.00	0	0.000	0.0	1,365	0
30	7	0.07	14	0.001	0.0	1,297	7	68	0	0.00	0	0.000	0.0	218	0
FA	3,512	33.28	2,064	0.039	0.1	32,943	1,711	69	0	0.00	0	0.000	0.0	625	0
								70	0	0.00	0	0.000	0.0	343	0
31	200	1.89	97	0.079	0.1	1,501	72	71	0	0.00	0	0.000	0.0	203	0
32	0	0.00	7	0.000	0.0	338	0	72	0	0.00	0	0.000	0.0	123	0
33	5	0.05	38	0.001	0.0	915	3	73	0	0.00	0	0.000	0.0	354	0
34	0	0.00	7	0.000	0.0	635	0	FO	0	0.00	0	0.000	0.0	8,416	0
35	0	0.00	7	0.000	0.0	316	0								
36	7	0.07	28	0.001	0.0	789	4	74	0	0.00	0	0.000	0.0	14	0
37	0	0.00	0	0.000	0.0	1,489	0	75	0	0.00	0	0.000	0.0	18	0
38	0	0.00	0	0.000	0.0	632	0	76	0	0.00	0	0.000	0.0	25	0
39	0	0.00	0	0.000	0.0	874	0	NS	0	0.00	0	0.000	0.0	56	0
40	0	0.00	0	0.000	0.0	640	0								
>>>>>>>>>>>>>>>>>>>> TOTAL >>>>>>>>>>>>>>>>>>>>>>									10,552	100.00	6,145	0.001	0.1	74,833	4,989

* Hunter Days are based on all Upland Hunting.

* The Total Active Hunter value is NOT the true Provincial Total.

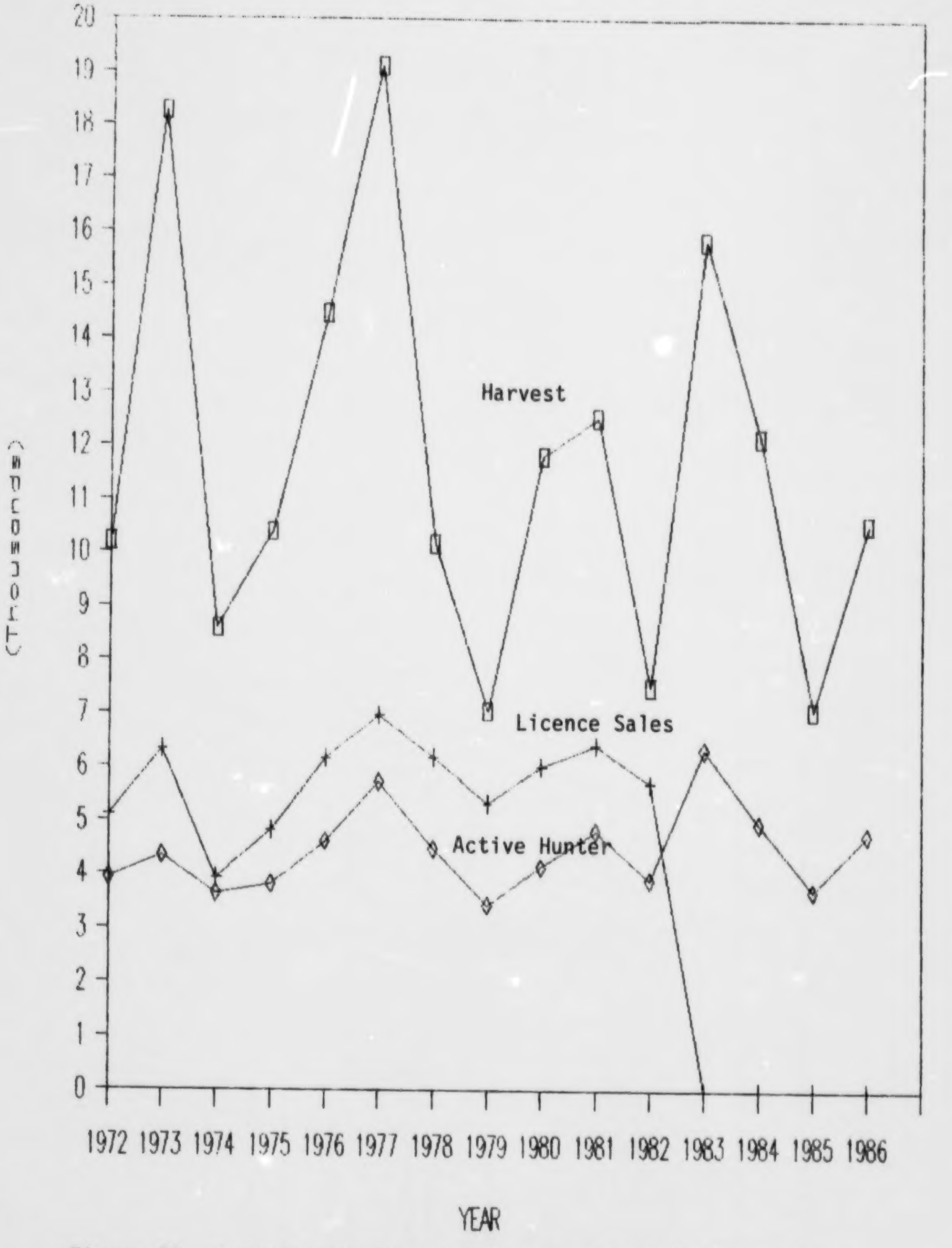

Figure 22. Saskatchewan Pheasant Licence Sales, Active Hunters and Harvest, 1972-1986

Table 120. Important Pheasant Hunting Zones in Saskatchewan*, 1984-1986

	Zone 4			Zone 2			Zone 5			Zone 15			Total (4 Zones)			Province*		
	1984	1985	1986	1984	1985	1986	1984	1985	1986	1984	1985	1986	1984	1985	1986	1984	1985	1986
Harvest (% of Total)	4,169 34%	1,860 26%	2,439 23.1%	2,145 18%	875 12%	1,250 11.8%	1,809 15%	1,032 14.6%	1,619 15.4%	1,600 13%	1,978 28%	2,801 26.5%	9,723 80%	5,745 81%	8,109 76.8%	12,182 100%	7,084 100%	10,552 100%
Harvest Pressure (kill/km sq)	.514	.229	.301	.202	.082	.117	.303	.173	.271	.238	.294	.416	.31	.18	.257	.07	.04	.059
Pheasant Hunter Days (% of Total)	1,731 35.5%	867 26%	1,158 23.2%	782 16%	406 12%	582 11.7%	647 13%	504 15%	763 15.3%	702 13%	922 28%	1,325 26.6%	3,862 79%	2,699 81%	3,828 76.7%	4,870 100%	3,325 100%	4,989 100%
Hunting Pressure (Species hunter days/ sq km)	.21	.11	.14	.07	.04	.05	.11	.08	.13	.14	.14	.20	.12	.09	.12	.03	.02	.03
Hunter Success (kill/species hunter day)	2.41	2.15	2.11	2.74	2.16	2.15	2.80	2.05	2.12	2.28	2.15	2.11	2.52	2.13	2.12	2.50	2.13	2.12

*Province defined as Zones 1-36, the only ones in which a pheasant hunting season is held

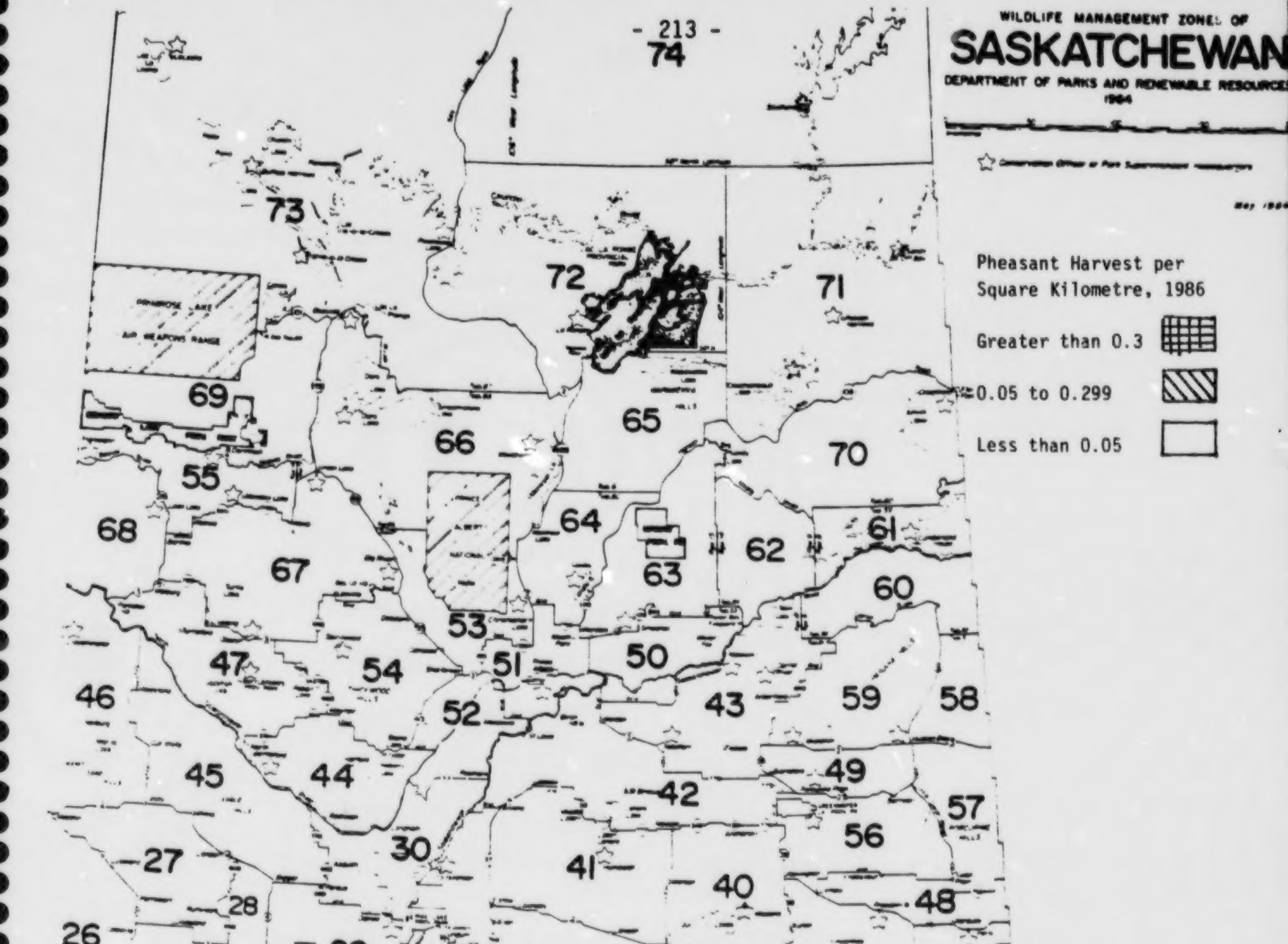
WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
1984
Pheasant Harvest per Square Kilometre, 1986
Greater than 0.3
0.05 to 0.299
Less than 0.05
74
73
72
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Figure 23. Saskatchewan pheasant harvest density, 1986

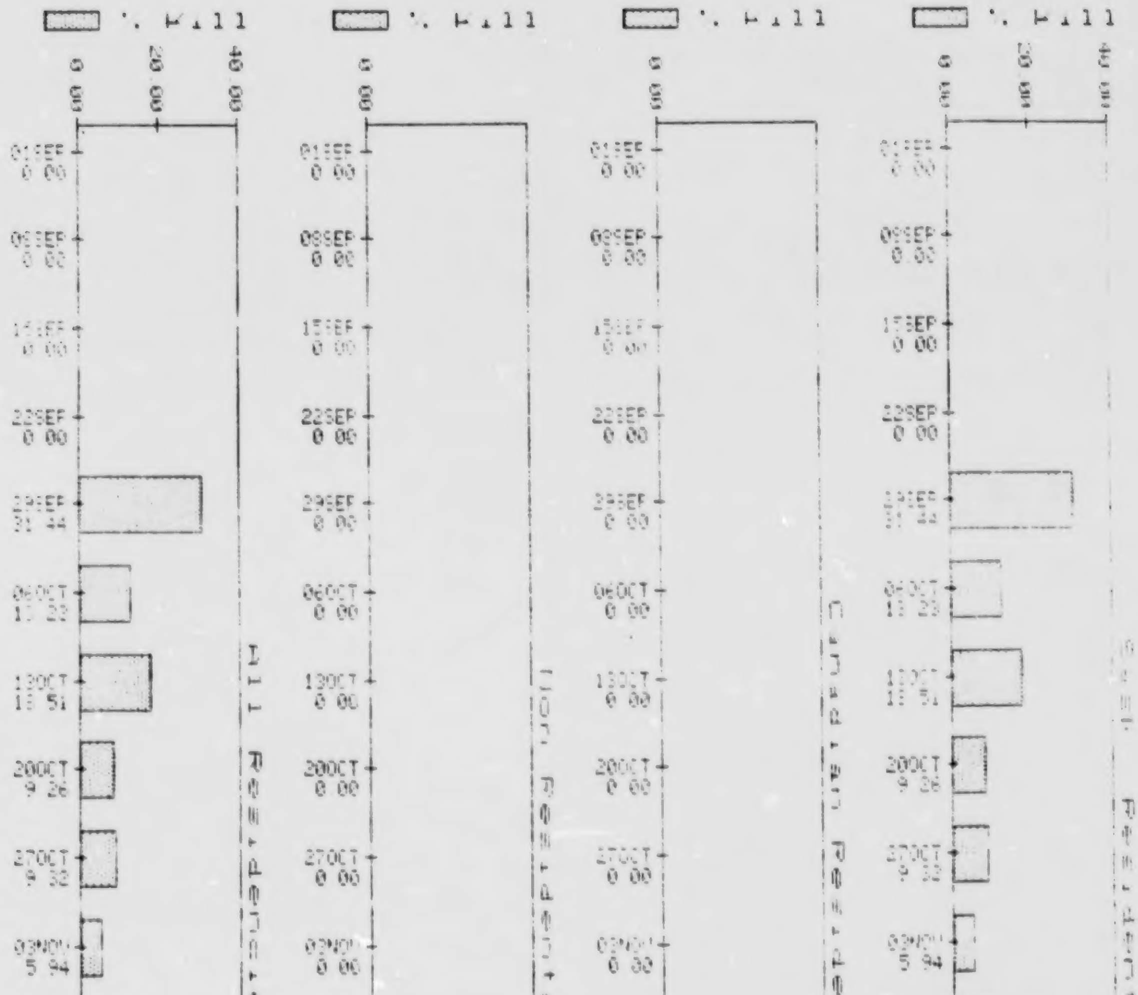

Figure 24. Saskatchewan 1986 Pheasant Harvest by Weekly Intervals

Table 121. Saskatchewan Pheasant Breeding Population Surveys, Spring 1987

Wildlife Management Zone	Survey Route	Crows Heard/Survey Stop			
		1984	1985	1986	1987
2	Val Marie	--	2.90	2.75	8.60
4	Woodrow Southwest	--	--	1.40	5.80
4	Bateman - Coderre	2.50	2.65	1.15	6.65
4	Pinto Creek	--	0.90	1.05	3.95
4	Notekeu Creek	3.85	1.25	2.25	6.15
5	Cadillac - Ponteix	--	1.11	0.84	5.27
5	Swift Current - Duncairn	1.15	1.05	1.95	3.25
6	Eastend	--	1.45	1.06	3.73
8	Maple Creek North	5.87	3.46	1.80	3.13
14	Estuary - Chesterfield	4.20	3.05	2.70	5.00
14	Snakebite	3.50	1.70	2.75	6.40
GRASSLAND		2.80	1.93	1.81	5.30
					+193%*
15	Radville East	1.35	1.55	1.90	4.20
15	Marienthal	1.55	0.50	--	4.20
20	Moose Jaw South	4.20	2.40	1.30	1.45
FARMLAND		2.37	1.48	1.60	3.28
					+76%*
PROVINCE		2.65	1.82	1.78	4.86
					+176%*

*Percent difference in 1987 male pheasant density compared to 1986; based on comparable survey routes.

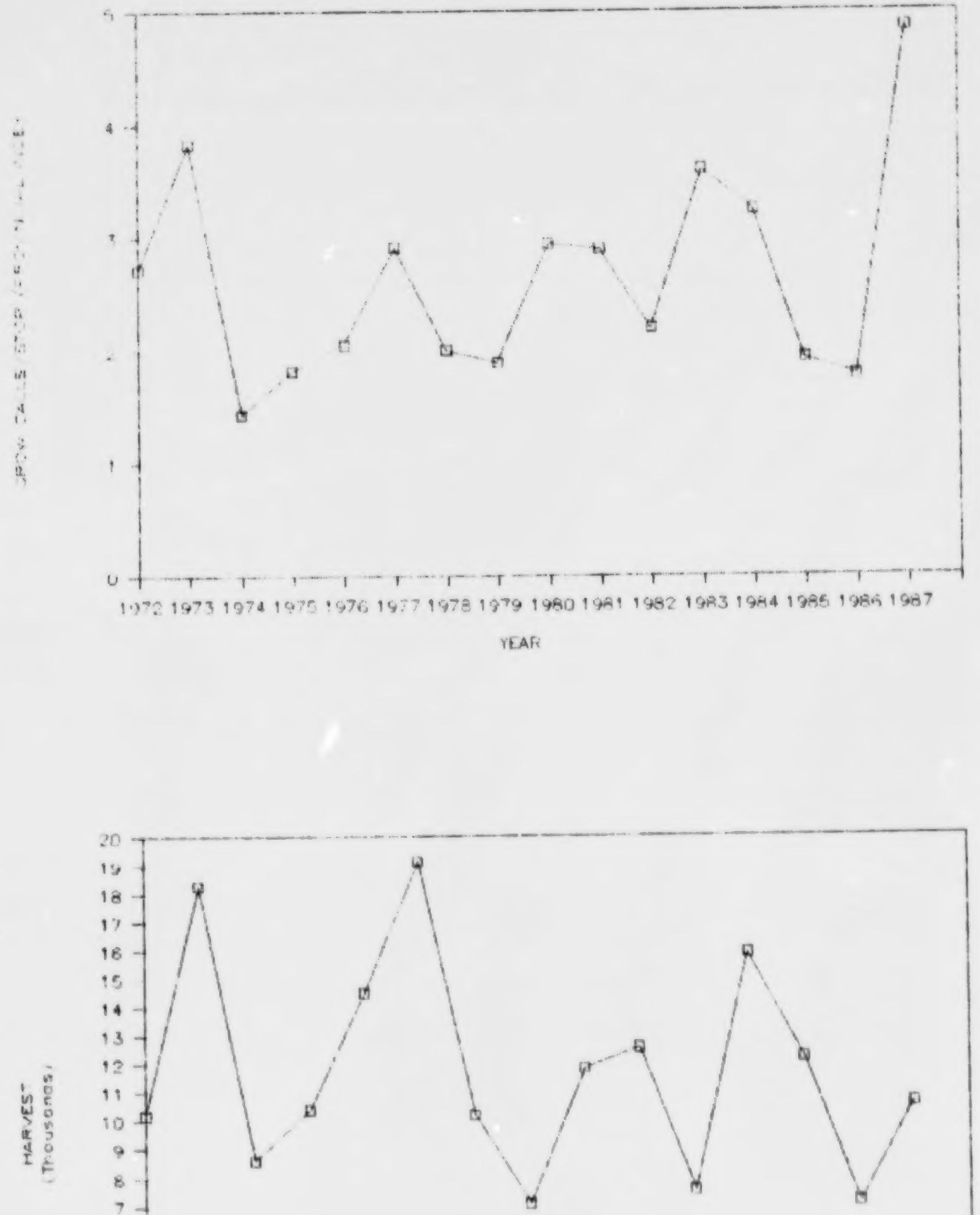

Figure 25. Saskatchewan Pheasant Spring Breeding Population Index vs Harvest, 1972-1987

Summary

The 1986 pheasant harvest was only 10% below the 1976-85 average. Active hunters and recreation days increased in 1986 due to slightly higher populations and improved reproduction. The 1987 spring breeding index is higher than estimates for the period 1972 to 1986. The mild winter of 1986-87 contributed to increased pheasant populations. Season dates for 1987 will allow pheasant hunting up to the opening of white-tailed deer season and will reinstate the traditional late pheasant season in December. The season proposal also calls for a delay of the opening date by six days to October 7 due to the calendar rollover and hunter requests for a slightly later season.

1987 Pheasant Hunting Regulations *

The 1987 regulations are essentially unchanged from those of 1986 except for reinstatement of the late pheasant season in December. Members of the Wildlife Advisory Committee strongly recommended dropping the late season for 1986 due to low pheasant populations. In 1987 pheasants have recovered to good levels throughout their prime range and a return of the late season is warranted.

In order to keep prime pheasant habitat open for hunting, SPRC continues to urge hunters to seek permission to hunt and avoid vehicle abuse by walking for pheasants. Affected landowners can post their land with conditional access signs provided free-of-charge by the department promoting walk-in hunting.

WMZ Open	Season Dates (Inclusive)	Bag Limit
Zones 1-36, including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Oct 7 - Nov 14	3 cocks daily 6 cocks possession
Zones 1-20 and 31 including Estevan-Cambria and Lomond #3 Wildlife Management Units.	Nov 30 - Dec 19	3 cocks daily 6 cocks possession

*Only Saskatchewan residents may hunt pheasants.

RUFFED GROUSE

1986 Hunting Activity and Harvest

In the spring of 1983, it was concluded that ruffed grouse populations had declined to the low point of the apparent 10-year population cycle. However, hunter harvest continued to decline in 1984 to 13,000 birds, the lowest since 1973 when only 12,700 ruffies were harvested (Tables 122, 123). In 1985 the ruffed grouse harvest increased to 15,000 suggesting that populations had entered the increase phase of the population cycle and in 1986 the harvest tripled to 48,000 birds.

Active ruffed grouse hunters increased by 58% to 10,147 from the 6,427 recorded in 1985 in response to higher population levels. Hunting success doubled from 1985 with an average of 4.7 birds harvested per active hunter. Harvest pressure was highest in the Forest Fringe Zones with 0.41 birds harvested/km^2 (Table 124). The Forest Zones accounted for almost half of the provincial harvest while 26% came from the Parkland Zones. Harvest density and the chronology of the ruffed grouse harvest are illustrated in Figures 26 and 27 respectively.

Zone 56 (Greenwater Park East area) ranked first in terms of ruffed grouse harvested/km^2 of total area (Table 125) and also total harvest (9.15%). Zones 67 and 37 ranked second and third with 8.87 and 5.12 percent of the total harvest, respectively. One third of the harvest took place in the two week period October 6 to October 20, 1986.

1986 Reproduction - Ruffed Grouse

The 1986 provincial reproduction index was determined to be 3.37 juveniles per adult based on a sample of 1,203 bird wings collected from the 1986 harvest (Table 126; Appendix 25, 26). This is 44% above the 1979-85 average and equivalent to 1985 levels. The Parkland index of 4.27 juveniles per adult is 75% above the 1979-85 average.

Since ruffed grouse wings have only been collected since 1979, the duration of peak reproduction is unknown but expected to continue for 3 or 4 more years.

Table 122. Ruffed Grouse Hunting Data for Saskatchewan, 1972-1986

	Hunting Level			Hunting Success		
Year	Active Ruffed Grouse Hunters	Total Upland Bird Hunter Days	Upland Hunter Days/ Active Ruffed Grouse Hunter	Ruffed Grouse Harvest	Ruffed Grouse Harvested/Active Ruffed Grouse Hunter	Ruffed Grouse Harvested/ Upland Hunter Day
1972	11,057	56,534	5.1	29,853	2.7	0.53
1973	9,102	53,275	5.9	12,743	1.4	0.24
1974*	7,477	37,801	5.1	14,205	1.9	0.38
1975*	12,091	48,161	4.0	36,274	3.0	0.75
1976*	14,782	86,525	5.9	83,805	5.7	0.97
1977*	17,757	93,496	5.3	94,353	5.3	1.01
1978	17,042	72,380	4.2	94,203	5.5	1.30
1979	17,545	72,096	4.1	86,309	4.9	1.20
1980	18,363	75,578	4.1	91,514	5.0	1.21
1981	14,466	68,989	4.8	36,711	2.5	0.53
1982	10,215	50,382	4.9	16,886	1.7	0.34
1983	8,754	60,146	6.9	13,523	1.5	0.22
1984	6,706	44,854	6.7	12,974	1.9	0.29
1985	6,427	40,149	6.2	15,074	2.3	0.38
1972-1985 Average	12,270	61,454	5.1	45,602	3.7	0.74
1986	10,147	74,900	7.4	47,978	4.7	0.64
% Change						
1986 from 1985	+58%	+87%	+19%	+218%	+104%	+68%
1986 from Average	-17%	+22%	+45%	+5%	+27%	-14%

*Data published for these years was inaccurate.

Table 123. Ruffed Grouse Harvest and Hunting Pressure by Wildlife Management Zone 1986

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	130	0.27	46	0.016	0.1	1,421	57
2	0	0.00	14	0.000	0.0	1,830	0
3	0	0.00	0	0.000	0.0	46	0
4	75	0.16	51	0.009	0.0	3,702	44
5	35	0.07	46	0.006	0.0	2,786	25
6	7	0.01	18	0.002	0.0	369	4
7	0	0.00	0	0.000	0.0	130	0
8	74	0.16	22	0.022	0.2	509	26
9	35	0.07	28	0.010	0.0	1,144	7
10	77	0.16	44	0.022	0.0	1,784	36
11	0	0.00	7	0.000	0.0	584	0
12	0	0.00	0	0.000	0.0	391	0
13	39	0.08	18	0.010	0.0	992	11
14	50	0.10	55	0.009	0.0	1,167	18
GR	522	1.09	349	0.008	0.0	16,844	226
15	203	0.42	109	0.030	0.0	6,170	65
16	192	0.40	58	0.036	0.1	2,162	46
17	139	0.29	136	0.036	0.1	1,247	62
18	47	0.10	58	0.006	0.0	2,439	22
19	273	0.57	136	0.030	0.1	5,929	125
20	258	0.54	176	0.047	0.2	1,663	94
21	433	0.90	305	0.052	0.1	4,107	177
22	140	0.29	56	0.030	0.2	726	56
23	7	0.01	21	0.001	0.0	1,663	7
24	14	0.03	35	0.003	0.0	1,611	4
25	33	0.07	25	0.006	0.1	613	15
26	9	0.02	9	0.002	0.0	533	8
27	77	0.16	28	0.016	0.2	356	25
28	49	0.10	14	0.036	0.2	266	11
29	189	0.40	153	0.036	0.1	2,160	87
30	354	0.74	333	0.049	0.3	1,297	175
FA	2,417	5.06	1,651	0.027	0.1	32,943	968
31	125	0.26	78	0.050	0.1	1,501	48
32	31	0.06	36	0.011	0.1	338	15
33	1,526	3.19	419	0.393	1.7	915	346
34	575	1.20	188	0.107	0.9	635	189
35	286	0.60	120	0.109	0.9	316	87
36	362	0.76	297	0.070	0.5	789	138
37	2,449	5.12	589	0.216	1.7	1,489	712
38	553	1.16	300	0.086	0.9	632	195
39	1,762	3.69	499	0.232	2.0	874	500
40	250	0.52	195	0.046	0.4	640	111
41	328	0.69	169	0.046	0.6	565	108
42	597	1.25	343	0.080	1.6	369	202
43	1,348	2.82	381	0.199	1.9	696	376
44	369	0.77	269	0.081	0.6	674	180
45	344	0.72	223	0.045	0.4	789	129
46	371	0.78	153	0.062	1.2	311	144
47	1,030	2.15	382	0.180	1.4	744	323
PA	12,305	25.74	4,640	0.125	1.0	12,277	3,802
48	1,721	3.60	347	0.680	3.6	484	396
49	1,182	2.47	244	0.493	2.6	464	311
50	1,501	3.14	359	0.450	2.8	530	373
51	622	1.30	248	0.216	1.8	356	204
52	732	1.53	308	0.251	2.0	360	214
53	1,504	3.15	326	0.542	2.6	590	407
54	1,328	2.78	388	0.233	2.0	676	383
55	2,168	4.54	416	0.578	2.6	837	498
FI	10,757	22.50	2,635	0.410	2.5	4,297	2,787
56	4,376	9.15	620	0.926	3.9	1,115	945
57	749	1.57	183	0.226	2.0	375	192
58	521	1.09	126	0.232	2.4	217	112
59	896	1.87	252	0.153	2.2	416	221
60	763	1.60	148	0.199	2.3	336	167
61	119	0.25	42	0.039	3.1	39	21
62	1,455	3.04	221	0.390	2.4	608	284
63	2,099	4.39	382	0.371	1.9	1,087	491
64	1,105	2.31	227	0.312	2.8	389	243
65	749	1.57	162	0.115	2.6	287	139
66	923	1.93	199	0.082	2.9	316	169
67	4,240	8.87	646	0.489	3.1	1,365	973
68	738	1.54	170	0.178	3.4	218	180
69	1,400	2.93	284	0.181	2.2	625	383
70	572	1.20	101	0.067	1.7	343	173
71	259	0.54	56	0.014	1.3	203	74
72	272	0.57	106	0.015	2.2	123	90
73	560	1.17	113	0.012	1.6	354	125
FO	21,797	45.60	4,039	0.132	2.6	8,416	4,982
74	7	0.01	7	0.000	0.5	14	7
75	0	0.00	0	0.000	0.0	18	0
76	0	0.00	0	0.000	0.0	25	0
NS	7	0.01	7	0.000	0.1	56	7
TOTAL	47,805	100.00	13,321	0.005	0.6	74,833	12,773

- * Hunter Days are based on all Upland Hunting.
- * The Total Active Hunter value is NOT the true Provincial Total.

Table 124. Ruffed Grouse Hunting Data for Saskatchewan by Ecological Divisions, 1986 vs 1985.

	Grassland Zones 1-14		Farmland Zones 15-30		Parkland Zones 31-47		Forest Fringe Zones 48-55		Forest Zones 56-73		Province* Zones 1-73	
	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986
Ruffed Grouse Harvest (% of Total)	386 2.6	522 1.1	944 6.3	2,417 5.1	4,410 29	12,305 25.7	4,037 27	10,757 22.5	5,297 35	21,797 45.6	15,074 100%	47,805 100%
Harvest Pressure (kill/sq km)	.006	.008	.010	.027	.045	.125	.154	.410	.032	.132	.034	.107
All Upland Bird Hunter Days (% of Total)	10,666 26.6	16,844 22.5	16,720 41.6	32,943 44.1	7,201 17.9	12,277 16.4	2,302 5.7	4,297 5.7	3,230 8.0	8,416 11.3	40,117 99.9	74,777 99.9
Species Hunter Days (% of Total)	180 3.3	226 1.8	441 8.2	968 7.6	1,828 33.9	3,802 29.8	1,320 24.5	2,787 21.8	1,621 30.1	4,982 39.0	5,389 100%	12,765 99.9
Hunter Pressure (Upland Hunter Days/ sq km)	.165	.260	.184	.363	.073	.125	.088	.164	.020	.051	.09	.168
Hunter Success (Kill/Upland Hunter Day)	.036	.031	.06	.073	0.61	1.00	1.75	2.50	1.64	2.59	0.38	0.64
Hunter Success (Kill/Species Hunter Day)	2.14	2.31	2.14	2.50	2.41	3.24	3.06	3.86	3.27	4.38	2.80	3.75

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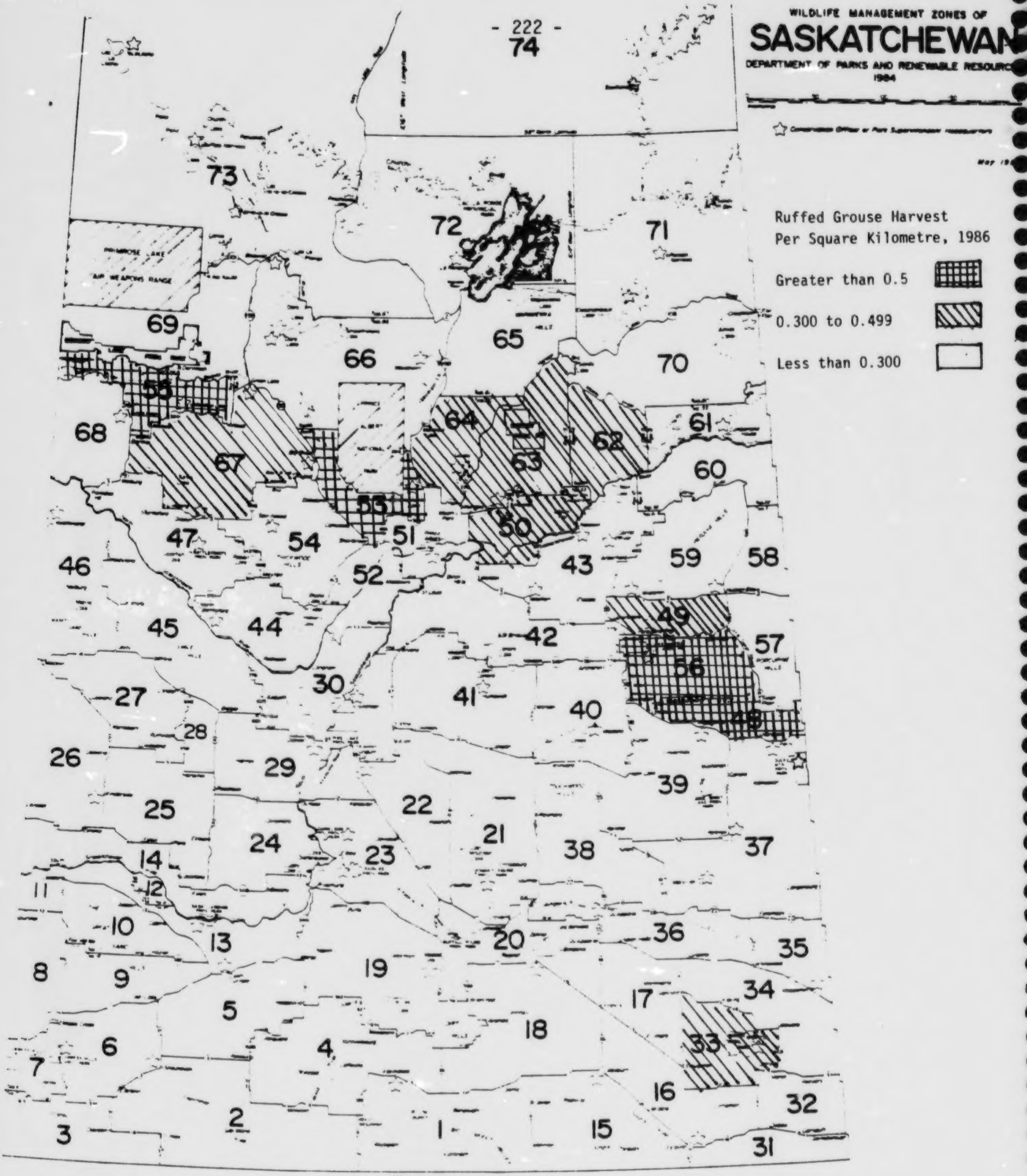
*Northern Shield Division Zones 74-76 excluded from calculations because of insignificance to ruffed grouse hunting (no harvest).


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURC
1984
Ruffed Grouse Harvest
Per Square Kilometre, 1986
Greater than 0.5
0.300 to 0.499
Less than 0.300
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AIR WEAPONS RANGE
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Figure 26. Saskatchewan ruffed grouse harvest density, 1986

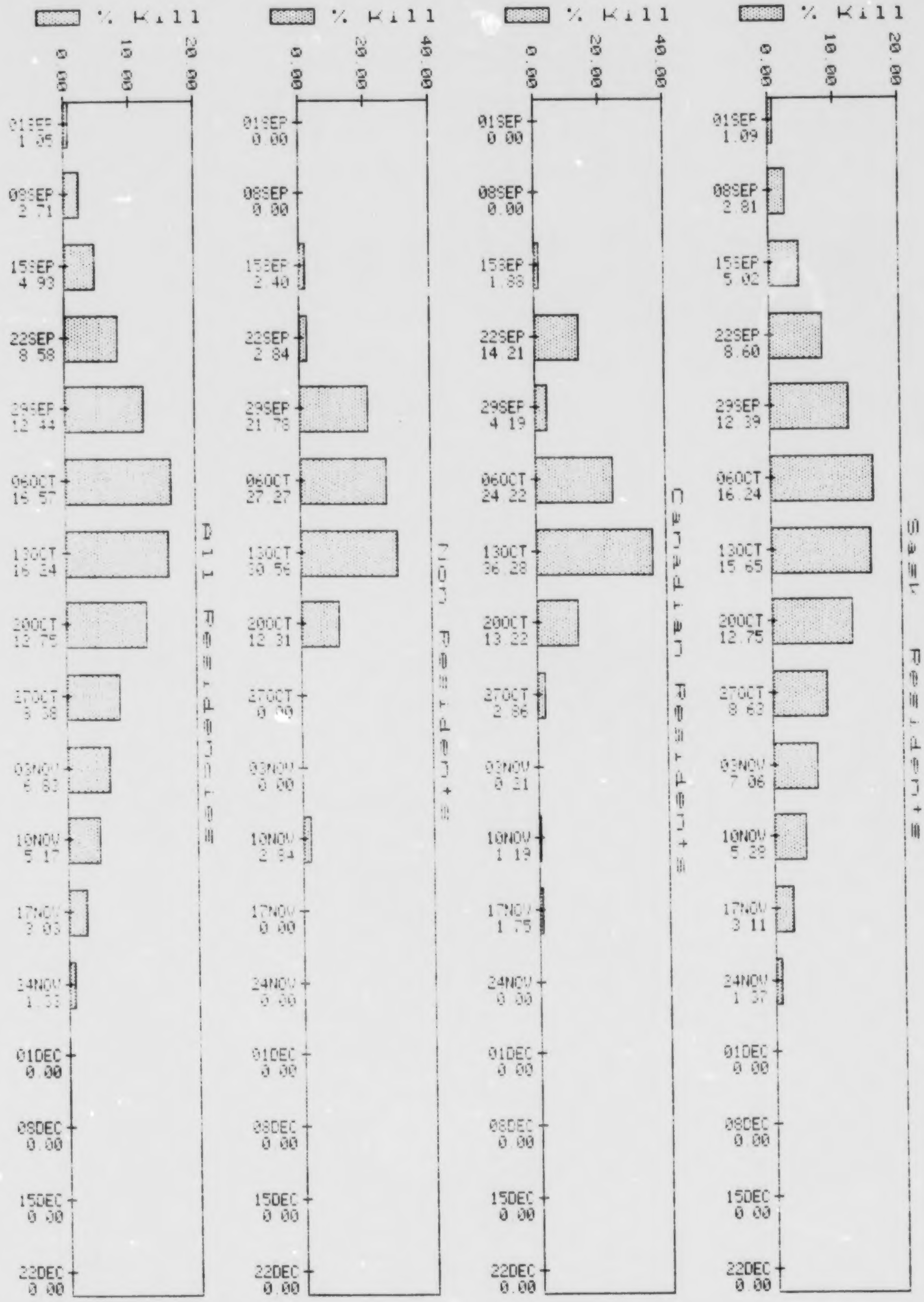


Figure 27. Saskatchewan 1986 Ruffed Grouse Harvest by Weekly Intervals

Table 125. Most Important Ruffed Grouse Harvest Zones in Saskatchewan, 1984-1986

	1984			1985			1986		
Rank*	Wildlife Mgmt. Zone	Ruffed Grouse Harvest/ Sq km Total Area	% of Provincial Harvest	Wildlife Mgmt. Zone	Ruffed Grouse Harvest/ Sq km Total Area	% of Provincial Harvest	Wildlife Mgmt. Zone	Ruffed Grouse Harvest/ Sq km Total Area	% of Provincial Harvest
1st	33	.154	4.6	55	.235	5.85	56	.926	9.15
2nd	53	.153	3.3	48	.205	3.45	48	.680	3.60
3rd	48	.150	2.9	53	.182	3.35	55	.578	4.54
4th	39	.110	6.5	67	.166	9.57	53	.542	3.15
5th	55	.096	2.8	52	.154	2.97	49	.493	2.47
Total	Leading 5 Zones	.126	20.0	Leading 5 Zones	.184	25.19	Leading 5 Zones	.677	22.91

*Ranked according to harvest density based on zone area in km^2; native habitat areas not yet available for 76 Wildlife Management Zones.

Table 126 Ruffed Grouse Reproduction in Saskatchewan, 1981-1986
(Based on wing samples from 1986 harvest)

	(Juvenile/Adult in Harvest)							% Change	
Wildlife Management Division	1981	1982	1983	1984	1985	1979-85 Average	1986	1986 from 1985	1986 from Average (1979-1985)
Farmland	1.19	1.23*	1.14*	1.90*	1.11*	1.36	3.08*	+177%	+126%
Parkland	3.12	2.43	2.29	1.75	3.62	2.43	4.27	+18%	+76%
Forest Fringe	N/A	N/A	N/A	3.17*	3.24	N/A	3.00	-7%	N/A
Forest	2.77	3.80*	4.80	1.93	3.77	3.13	3.22	-15%	+3%
Province	2.30	2.28	2.51	1.97	3.45	2.34	3.37	-2%	+44%

* Sample less than 50 wings

027

1986 Ruffed Grouse Breeding Population

The 1987 spring drumming surveys have indicated slightly reduced populations in the Forest Fringe and Forest zones. The Parkland index is up by 2% for seven comparable survey routes. The index is down by 31% in Forest Fringe zones although only two routes are comparable, and for Forest zones the index is down by 16% (Table 127). The provincial breeding index of 1.01 drums heard per survey stop is down by 14% for comparable surveys. Hunters indicated that 1986 populations were up throughout the Forest Fringe and Forest zones.

The Parkland area (Zones 31-47) has not exhibited an apparent population increase in 1987. The Forest index is presently the highest at an estimated 1.35 drums per survey stop and only the Duck Mountain Park route in the Parklands is above the Forest average.

Figure 28 (Appendix 27) illustrates the relationship which has been apparent between hunter harvest and the cyclic nature of provincial ruffed grouse populations over the last 15 years. Populations have increased in 1985 and 1986. Hunters should see another improvement in numbers of ruffed grouse for the fall of 1987 throughout the Forest Fringe and Forest zones. Populations appear to be in the earlier phases of cyclic increase in the Parklands.

Summary

The 1987 season will see an increase in bag limits throughout the Forest Fringe and Forest zones. In the Grasslands, Farmlands and Parklands the season opening coincides with the Hungarian partridge and sharp-tailed grouse opening date. To maintain the traditional overlap between ruffed grouse seasons and big game seasons in the Forest and Shield, hunting season dates are September 14 - November 28. The initial three weeks of the bear season, the first two weeks of the early moose season in Zones 70-76, and the last two weeks of the late elk season in WMZ 53 are not encompassed by these dates.

The 1986 ruffed grouse harvest was three times greater than that of 1985. Spring surveys in 1987 have shown a slight improvement in populations in the Parklands. Surveys in the Forest Fringe and Forest do not substantiate hunter perceptions of high populations or the favorable production data from 1986. The Parkland populations are exhibiting a lag in synchrony with the cycle in Forest populations. No changes are proposed in Farmland or Parkland bag limits. Season dates are similar to 1986 with a one week delay in northern zones.

1987 Ruffed Grouse Hunting Regulations

WMZ Open	Season Dates (Inclusive)	Bag Limit
Zones 1-47, including Last Mountain Lake and Elbow Wildlife Management Units; and Moose Mountain and Duck Mountain Provincial Parks	Sept. 21 - Nov. 14	5 daily 10 possession
Zones 48-76, including Fort a la Corne Wildlife Management Unit; Clearwater River, Greenwater, Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept. 14 - Nov. 28	10 daily 20 possession

Table 127 Saskatchewan Ruffed Grouse Breeding Population Surveys, Spring 1987

Wildlife Management Zone	Survey Route	No. of Stops	Drums Heard/Survey Stop		
			1985	1986	1987
7	Cypress Hills	18	--	--	1.44
33	Moose Mountain Park	20	0.40	--	0.80
37	Duck Mountain Park	20	1.50	1.85	1.55
38	Bryce Lake	15	--	0.73	0.60
39	Margo South	18	1.61	1.11	0.22
39	Parkerview	20	0.05	0.25	0.95
43	Blue Jay Tower	10	--	--	0.60
46	Battle River - Freemont	21	1.60	0.48	1.33
47	Sandwith	15	0.26	0.87	0.47
PARKLAND			0.91	0.88	0.86
					+2%*
49	Akosane	13	--	--	0.15
50	Fort a la Corne	17	1.05	1.47	0.24
54	Chitek	20	--	--	0.80
54	Mistawasis	15	--	--	1.20
55	St. Cyr Lake	30	0.83	0.87	1.03
FOREST FRINGE			0.91	1.09	0.75
					-31%*
56	McBride Lake	25	1.40	1.00	1.67
56	Greenwater	15	0.87	0.87	0.33
57	Wood Road South	17	0.65	1.88	1.48
60	Squaw Rapids East	18	0.95	0.72	1.28
63	Torch River	15	--	--	1.20
53 & 66	Tote Road	20	2.15	3.55	3.20
67	Boundary Road	20	0.55	0.55	0.80
68	Railroad Grade	20	1.30	1.45	0.65
66 & 69	Green Lake North	20	--	--	1.45
69	Mistohay	20	0.80	2.80	1.05
FOREST			1.12	1.61	1.35
					-16%*
PROVINCE	25 survey routes		1.01	1.27	1.01
					-14%*

*Percent difference in 1987 density figures compared to 1986; based on comparable surveys.

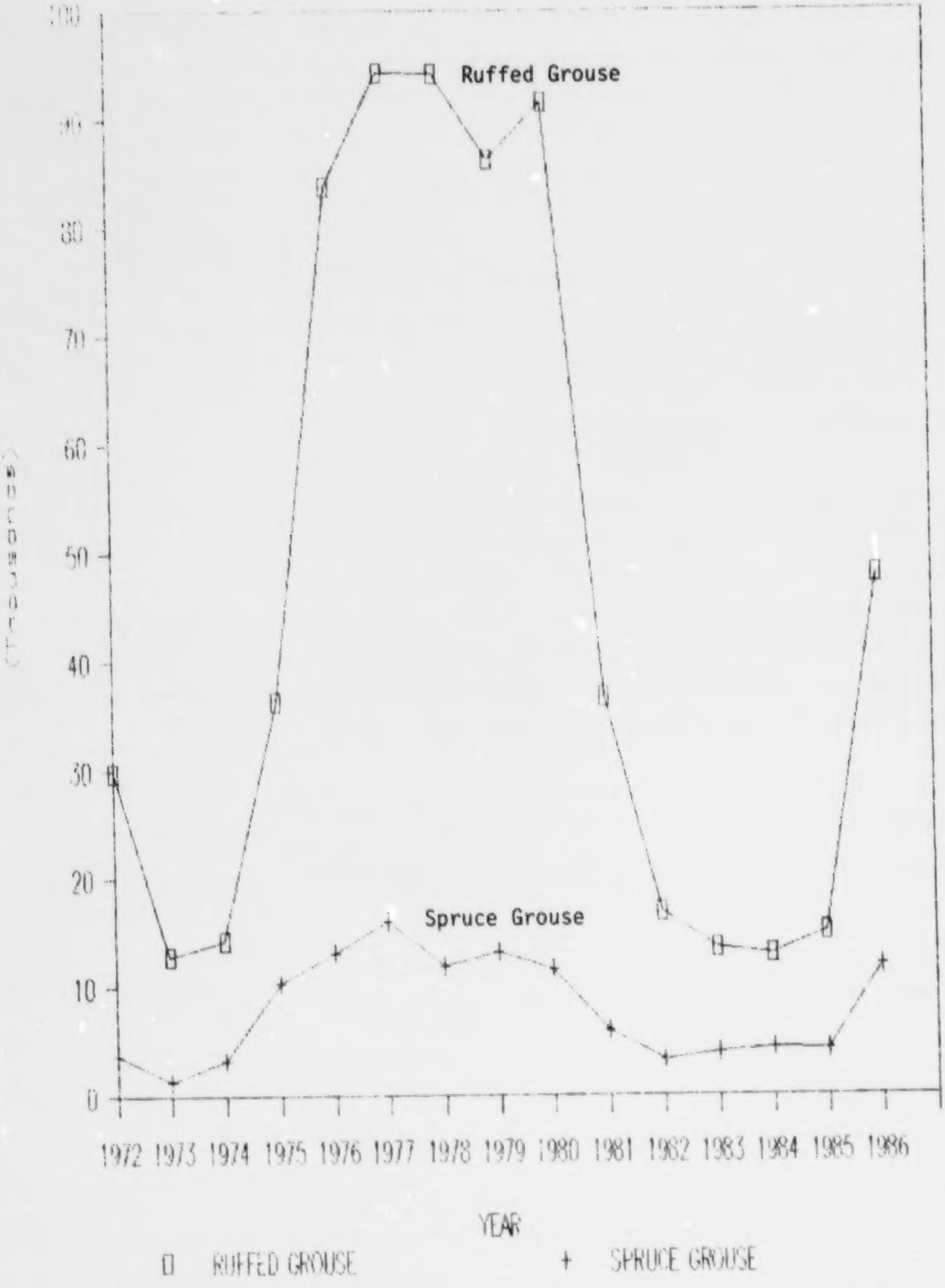


Figure 28. Saskatchewan Ruffed and Spruce Grouse Harvest, 1972-1986

SPRUCE GROUSE

The 1986 spruce grouse harvest of 11,883 birds was more than double the 1985 level (4,230). Eighty four percent (84%) of the 2,844 active hunters were successful and 3,220 recreation days were provided. Zones 63 and 73 accounted for 26% of the harvest. Spring surveys and wing collections are not conducted for spruce grouse, but this species is believed to cycle in a fashion similar to ruffed grouse populations.

Table 128 outlines spruce grouse hunting activity and harvest in 1986 while Figure 29 outlines the chronology of the harvest by weekly intervals. Harvest density is outlined in Figure 30.

1987 Spruce Grouse Hunting Regulations

The season opening date and spruce grouse bag limit for Zone 43 (the only Parkland Zone open for spruce grouse hunting) coincides with the ruffed grouse regulations in that zone to simplify regulations for local upland bird hunters. The sharp-tailed grouse and Hungarian partridge seasons are also slated to open September 21 in Zone 43. A bag limit increase to ten birds daily, similar to the ruffed grouse bag limits will be implemented in the Forest Fringe, Forest and Northern Shield zones.

WMZ Open	Season Dates (Inclusive)	Bag Limit
Zone 43	Sept. 21 - Nov. 14	5 daily 10 possession
Zones 48-76, including Fort a la Corne Wildlife Management Unit; Clearwater River, Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept. 14 - Nov. 28	10 daily 20 possession

Table 128. Saskatchewan Spruce Grouse Harvest and Hunting Pressure by Wildlife Management Zone 1986

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	0	0.00	0	0.000	0.0	1,421	0
2	0	0.00	0	0.000	0.0	1,830	0
3	0	0.00	0	0.000	0.0	46	0
4	0	0.00	0	0.000	0.0	3,702	0
5	0	0.00	0	0.000	0.0	2,786	0
6	0	0.00	0	0.000	0.0	369	0
7	0	0.00	0	0.000	0.0	130	0
8	0	0.00	0	0.000	0.0	509	0
9	0	0.00	0	0.000	0.0	1,144	0
10	0	0.00	0	0.000	0.0	1,784	0
11	0	0.00	0	0.000	0.0	584	0
12	0	0.00	0	0.000	0.0	391	0
13	0	0.00	0	0.000	0.0	992	0
14	0	0.00	0	0.000	0.0	1,167	0
GR	0	0.00	0	0.000	0.0	16,844	0
15	0	0.00	0	0.000	0.0	6,170	0
16	0	0.00	0	0.000	0.0	2,162	0
17	0	0.00	0	0.000	0.0	1,247	0
18	0	0.00	0	0.000	0.0	2,439	0
19	0	0.00	0	0.000	0.0	5,929	0
20	0	0.00	0	0.000	0.0	1,663	0
21	0	0.00	0	0.000	0.0	4,107	0
22	0	0.00	0	0.000	0.0	726	0
23	0	0.00	0	0.000	0.0	1,663	0
24	0	0.00	0	0.000	0.0	1,611	0
25	0	0.00	0	0.000	0.0	613	0
26	0	0.00	0	0.000	0.0	533	0
27	0	0.00	0	0.000	0.0	356	0
28	0	0.00	0	0.000	0.0	266	0
29	0	0.00	0	0.000	0.0	2,160	0
30	0	0.00	0	0.000	0.0	1,297	0
FA	0	0.00	0	0.000	0.0	32,943	0
31	0	0.00	0	0.000	0.0	1,501	0
32	0	0.00	0	0.000	0.0	338	0
33	0	0.00	0	0.000	0.0	915	0
34	0	0.00	0	0.000	0.0	635	0
35	0	0.00	0	0.000	0.0	316	0
36	0	0.00	0	0.000	0.0	789	0
37	0	0.00	0	0.000	0.0	1,489	0
38	0	0.00	0	0.000	0.0	874	0
39	0	0.00	0	0.000	0.0	632	0
40	0	0.00	0	0.000	0.0	640	0
41	0	0.00	0	0.000	0.0	565	0
42	0	0.00	0	0.000	0.0	369	0
43	261	2.20	108	0.038	0.4	696	102
44	0	0.00	0	0.000	0.0	674	0
45	0	0.00	0	0.000	0.0	789	0
46	0	0.00	0	0.000	0.0	311	0
47	0	0.00	0	0.000	0.0	744	0
FN	261	2.20	108	0.003	0.0	12,277	102
48	0	0.00	7	0.000	0.0	484	0
49	101	0.85	62	0.042	0.2	464	38
50	251	2.11	146	0.075	0.5	530	98
51	197	1.66	115	0.068	0.6	356	84
52	113	0.95	101	0.039	0.3	360	45
53	162	1.36	115	0.058	0.3	590	73
54	244	2.06	95	0.043	0.4	676	79
55	559	4.71	153	0.149	0.7	837	122
FF	1,626	13.71	793	0.062	0.4	4,297	539
56	370	3.12	225	0.078	0.3	1,115	115
57	354	2.98	163	0.107	0.9	375	136
58	199	1.68	69	0.089	0.9	217	66
59	349	2.94	139	0.060	0.8	416	136
60	458	3.86	76	0.119	1.4	336	126
61	56	0.47	14	0.018	1.5	39	18
62	686	5.78	154	0.184	1.1	608	171
63	2,023	17.06	364	0.357	1.9	1,087	461
64	309	2.61	115	0.087	0.8	389	101
65	608	5.13	146	0.093	2.1	287	129
66	505	4.26	115	0.045	1.6	316	119
67	588	4.96	268	0.068	0.4	1,365	224
68	61	0.51	31	0.015	0.3	218	24
69	800	6.75	201	0.103	1.3	625	199
70	529	4.46	78	0.062	1.5	343	126
71	533	4.50	87	0.030	2.6	203	119
72	176	1.48	108	0.010	1.4	123	52
73	1,078	9.09	146	0.023	3.0	354	189
FU	9,682	81.65	2,498	0.059	1.2	8,416	2,511
74	14	0.12	7	0.000	1.0	14	7
75	131	1.10	24	0.002	7.5	18	17
76	145	1.22	24	0.002	5.9	25	28
NS	290	2.45	55	0.002	5.2	56	52
>>>>>>>>>>>>>>>>>>>> TOTAL >>>>>>>>>>>>>>>>>>>>	11,859	100.00	3,454	0.001	0.2	74,833	3,205

- * Hunter Days are based on all Upland Hunting.
- * The Total Active Hunter value is NOT the true Provincial Total.

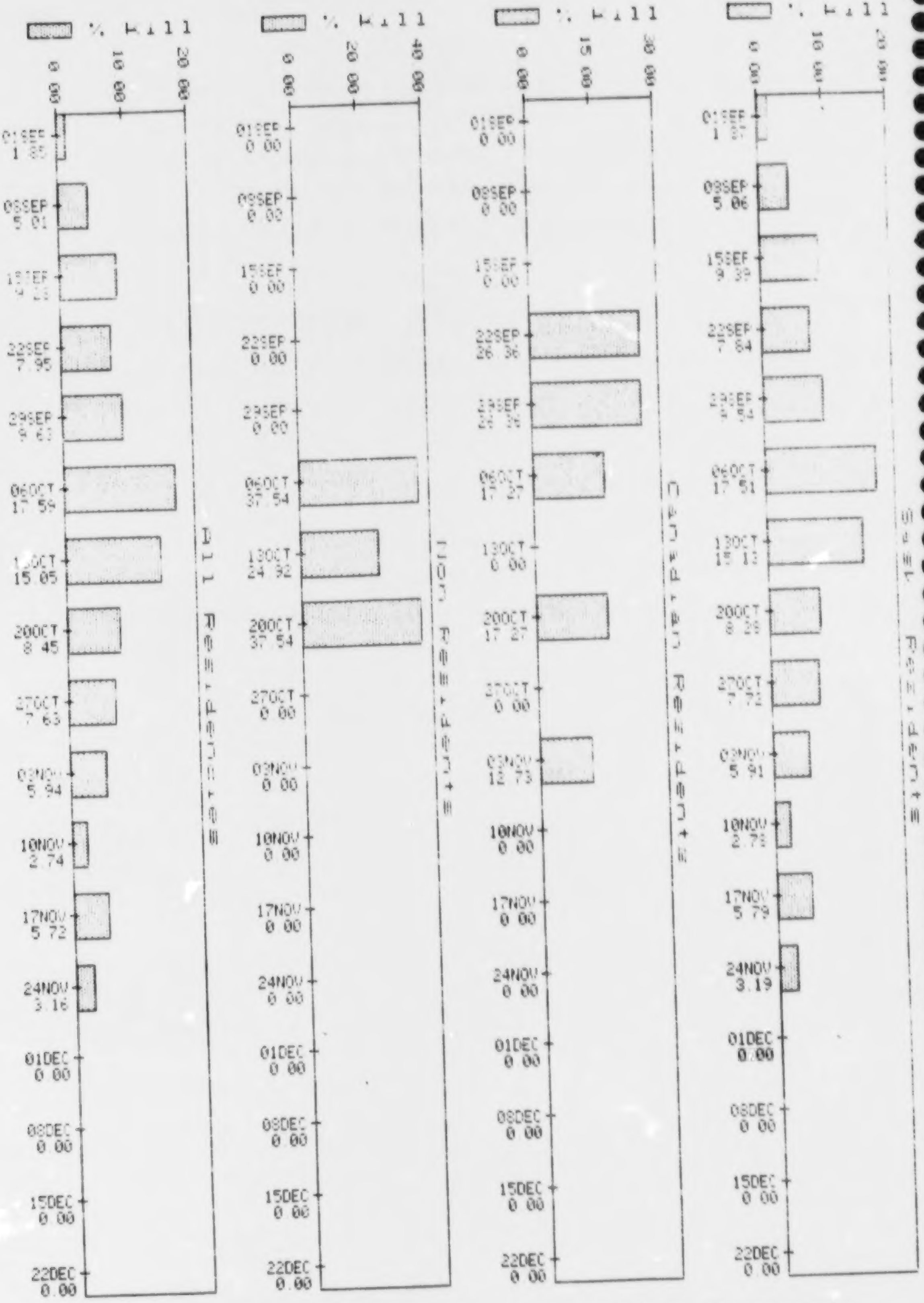
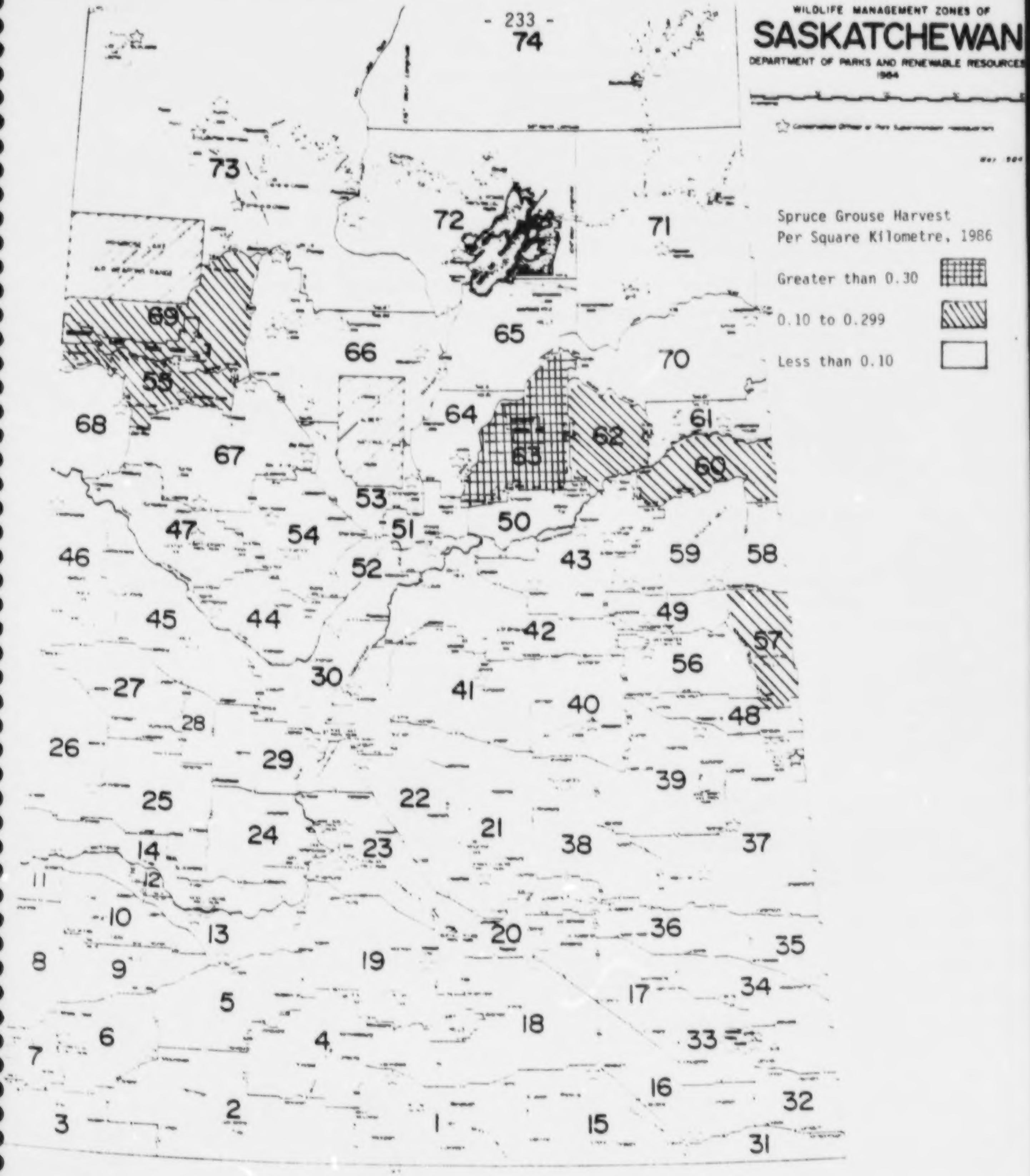


Figure 29. Saskatchewan 1986 Spruce Grouse Harvest by Weekly Intervals


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
1984
Spruce Grouse Harvest
Per Square Kilometre, 1986
Greater than 0.30
0.10 to 0.299
Less than 0.10
74
73
72
71
69
55
66
65
70
68
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46
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11
10
13
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36
35
8
9
19
17
34
5
6
18
33
7
4
16
32
2
3
1
15
31

Figure 30. Saskatchewan spruce grouse harvest density, 1986

PTARMIGAN

Little new information is available on recent ptarmigan distribution, numbers or utilization by sport hunters. Migrations are known to occur into the Deschambault Lake area and into the White Lake area near the Reindeer River. Most of the ptarmigan range is relatively inaccessible and utilization is largely opportunistic by big game hunters and trappers.

The 1987 season dates coincide with the Barren Ground Caribou Season.

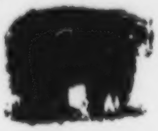
1987 Ptarmigan Hunting Regulations

WMZ Open	Season Dates (Inclusive)	Bag Limit
Zones 61-66, 69-76, including Clearwater River and Lac la Ronge Provincial Park	Nov. 16/87- Mar. 31/88	10 daily 20 possession

Appendix 1. 1986 Big Game Hunting Season Regulations

1986 Big Game Seasons

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Limit	Additional Information
White-tailed Deer (Primitive Weapons, Sask. Residents Only) 	Zones 1 to 8, 11 to 37, 39 to 76, including Elbow, Fort a la Corne, Great Bend, and Horsehide Lake Wildlife Management Units, Clearwater River, Duck Mountain, Greenwater, Lac La Ronge, Meadow Lake, Nipawin and Saskatchewan Landing Provincial Parks and Bronson Forest Recreation Site	Archery Sept. 1 - Oct. 11 Muzzleloading Rifles Sept. 29 - Oct. 11	one white-tailed deer, either sex	– An unsuccessful archer may purchase a first regular licence to hunt white-tailed deer by turning in his unused archery licence at any department office – White-tailed deer archery licences are valid in the Shotgun-Archery-Muzzleloader areas of Zones 20 and 30 during the Nov. 17 to Nov. 29 season **Note: The opening date in Duck Mountain, Greenwater, Meadow Lake and Saskatchewan Landing Provincial Parks and Bronson Forest Recreation Site is delayed until Sept. 3.**
	Zones 9 and 10	Archery Sept. 8 - Oct. 11 Muzzleloading Rifles Sept. 29 - Oct. 11	one white-tailed deer, either sex	– Muzzleloading rifle white-tailed deer licences are valid only in the muzzleloading season, except in the Shotgun-Archery-Muzzleloader areas of Zones 20 and 30
	Zone 38	Archery Sept. 1 - Oct. 11 Muzzleloading Rifles Sept. 29 - Oct. 11	one antlered white-tailed deer	– "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres in length as measured from the outside of the skull to the tip
White-tailed Deer (Sask. Residents, Canadian Residents and Non-residents)	Zones 56 to 61, 66 and 69, including Leaf Lake Wildlife Management Unit, Greenwater and Meadow Lake Provincial Parks	Oct. 6 - Oct. 18 and Nov. 10 - Nov. 29	one white-tailed deer, either sex	
	Zones 62 to 65, 67 and 68, including Nipawin Provincial Park and Bronson Forest Rec Site	Nov. 10 - Nov. 29	one white-tailed deer, either sex	
	Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Nov. 3 - Nov. 29	one white-tailed deer either sex	
White-tailed Deer (Sask. Residents and Canadian Residents) 	Zones 1 to 15, 18 to 30, 35, 36, and 40 to 55, including Brokenshell No. 1 and No. 2, Cookson, Estevan-Cambria, Elbow, Fort a la Corne, Horsehide Lake, Last Mountain Lake and Lomond No. 3 (at Maxim) Wildlife Management Units; and Saskatchewan Landing Provincial Park	Sask. Residents Nov. 17 - Nov. 29 Canadian Residents Nov. 24 - Nov. 29	one white-tailed deer, either sex	– Holders of unused primitive weapons white-tailed deer licences may hunt white-tailed deer in the Shotgun-Archery-Muzzleloader areas of Zones 20 and 30 during the regular season – **Please refer to enclosed map for the portion of Management Zones 20 and 30 restricted to shotgun, archery, and muzzleloading rifle hunting only.** – **Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit.** **Note: Primitive weapons only in Saskatchewan Landing Provincial Park.**
	Zones 16, 17, 31 to 34 and 39, including Moose Mountain Provincial Park	Sask. Residents Nov. 17 - Nov. 29	one white-tailed deer either sex	– **"Roads and Trails Only". Hunters in Zones 15 to 17, 20 and 30 to 34 must keep vehicles on roads and road allowances with trails.**
	Zone 38	Sask. Residents Nov. 17 - Nov. 29	one antlered white-tailed deer	
	Zone 37, including Duck Mountain Provincial Park	Sask. Residents Nov. 17 - Nov. 22 Sask. Residents Nov. 24 - Nov. 29	one antlered white-tailed deer one white-tailed deer either sex	– "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres in length as measured from the outside of the skull to the tip
Antlerless White-tailed Deer (WMZ 2 & 6 Mule Deer Licence Holders Only)	Zones 2 and 6	Various seasons between Nov. 3 and Nov. 15 inclusive	one antlerless white-tailed deer	– Hunters may purchase an antlerless white-tailed deer licence at department offices upon proof of possession of a regular rifle (either sex or antlerless) mule deer licence – Antlerless white-tailed deer licences are valid only in Zones 2 or 6 during the appropriate mule deer season – "Antlerless White-tailed Deer" means a doe or 1986 fawn
White-tailed Deer with Guided Moose 	Zones 60, 61 and 62	Persons holding valid white-tailed deer licences and possessing guided moose licences Oct. 6 - Oct. 25 and Nov. 3 - Nov. 8	one white-tailed deer either sex	– Services of a registered guide must be used
	Zone 69	Persons holding valid white-tailed deer licences and possessing guided moose licences Sept. 8 - Sept. 20 and Nov. 3 - Nov. 8	one white-tailed deer, either sex	
	Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Persons holding valid white-tailed deer licences and possessing guided moose licences Sept. 8 - Sept. 20 and Oct. 6 - Oct. 18	one white-tailed deer, either sex	

Regular Elk (Sask. Residents Only)		Zones 43, 48, 49, 50 (North of Highway 55), 56 to 64, 66 and 69, including Nipawin Provincial Park, and the northeast portion of Meadow Lake Provincial Park north of the 17th base line	Sept. 15 - Sept. 27	one antlered elk	– "Antlered Elk" means any elk having an antler or antlers at least 15 centimetres length as measured from the outside of skull to the tip **Watch for signs in Meadow Lake Provincial Park.**
		Zone 53, including Cookson Wildlife Management Unit	Nov. 24 - Dec. 13	one elk, either sex	**Note: Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit.**
Regular Moose (Sask. Residents Only)	**Early Season**	Zones 43, 48, 49, 53, 56 to 67 and 69, including Cookson and Leaf Lake Wildlife Management Units, and Nipawin Provincial Park	Oct. 6 - Oct. 11	one bull or one 1986 calf moose	– "Bull Moose" means a male moose one more years old. "Calf Moose" means an moose born in 1986. "Cow Moose" mean a female moose one or more years old.
		Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Sept. 1 - Sept. 20	one bull or one 1986 calf moose	– Successful applicants for a special moo licence are not eligible to purchase a regular moose licence.
	Late Season	Zones 43, 48, 49 and 56 to 59, including Leaf Lake Wildlife Management Unit	Nov. 17 - Nov. 29	one bull or one 1986 calf moose	– The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.
		Zones 53, 55 and 60 to 69, including Cookson Wildlife Management Unit, Nipawin Provincial Park and Bronson Forest Recreation Site	Nov. 17 - Nov. 22	one bull or one 1986 calf moose	
		Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Nov. 3 - Nov. 29	one bull or one 1986 calf moose	
Guided Moose (Canadian Residents and Non-residents)		Zones 60, 61 and 62	Oct. 6 - Oct. 25 and Nov. 3 - Nov. 22	one bull or one 1986 calf moose	– The antlers of bull moose and the lower jaw of calf moose must accompany the carcass. – Services of a registered guide must be used.
		Zone 69	Sept. 8 - Sept. 20, Oct. 6 - Oct. 11 and Nov. 3 - Nov. 22	one bull or one 1986 calf moose	– 400 guided moose licences are availabl directly from outfitters. Quotas (in brackets) for each zone: 60(60), 61(115), 62(15), 69(15), 70(10), 71(45), 72(45), 73(10), 74(45), 75(10), 76(30)
		Zones 70 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Sept. 8 - Sept. 20, Oct. 6 - Oct. 18 and Nov. 3 - Nov. 29	one bull or one 1986 calf moose	
Woodland Caribou (Sask. Residents, Canadian Residents and Non-residents)		Zones 70 to 75, including Clearwater River and Lac La Ronge Provincial Parks	Sept. 8 - Sept. 20, Oct. 6 - Oct. 18 and Nov. 3 - Dec. 6	one woodland caribou, either sex	Canadian residents and non-residents must use the services of a registered gu when hunting caribou.
Barren-ground Caribou (Sask. Residents of Zone 76 only)		Zone 76	Nov. 17 - Mar. 14, 1987	two barren-ground caribou, either sex; separate licences required	– "Resident of Zone 76" means a Saskatchewan resident who has lived i Zone 76 for three months immediately preceding the date of licence purchase.
Bear (Sask. Residents, Canadian Residents and Non-residents)		Zones 37, 42, 43 and 48 to 76, including Cookson, Horsehide Lake and Leaf Lake Wildlife Management Units	Aug. 25 - Oct. 18	two bear, either sex; separate licences required	– Unused spring bear licences are valid i fall seasons.
		Clearwater River, Lac La Ronge, Meadow Lake, Nipawin and Duck Mountain Provincial Parks; and Bronson Forest Recreation Site	Sept. 3 - Oct. 18	two bear, either sex; separate licences required	**Note: A person hunting in Zones 58 to during an August, September or Octob big game season may obtain two free bear seals. One bear, either sex, can be taken per seal while hunting under a v big game licence. Once the big game licence has been filled, the free bear seals are no longer valid.**
		Fort a la Corne Wildlife Management Unit only	Sept. 22 - Oct. 18	two bear, either sex; separate licences required	– Zones 58 to 61 free bear seals are available at department offices only.

1986 Special Big Game Seasons
Saskatchewan Residents Only by Application and Draw

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Limit	Additional Information
Antelope (tentative)	Zones 1 to 14, 19 and 23 to 26	Oct. 29 - Nov. 5	one antelope, either sex	– Antelope licence quotas will be set after July aerial surveys
Antelope (Archery) (tentative)	Zones 1 to 15, 18, 19 and 23 to 26	Sept. 1 - Oct. 4	one antelope, either sex	– Antelope archery licences are valid in any open zone during the archery season only
Special Elk	Zone 6 and that portion of Zone 7 east of Highway No. 271 and Grid Road No. 615	Oct. 20 - Oct. 25	one elk, either sex	– Licence quotas (in brackets) for each zone: 6 and the east portion of 7 combined (100), the west portion of 7(200), 33(100), 50(275), 48, 49, 56 and 57 combined (500), 54(50). **Note: Some portions of the Meeting Lake PFRA Pasture in Zone 54 will be closed to elk hunting. Watch for "No Hunting" signs.**
	That portion of Zone 7 west of Highway No. 271 and Grid Road No. 615, including Cypress Hills (West Block) Provincial Park	Oct. 20 - Oct. 25 or Oct. 27 - Nov. 1	one elk, either sex	
	Zone 33, including Moose Mountain Provincial Park	Oct. 27 - Nov. 1	one elk, either sex	
	That portion of Zone 50 south of Highway No. 55, including Fort a la Corne Wildlife Management Unit	Sept. 1 - Sept. 20 and Nov. 3 - Nov. 15	one elk, either sex	
	Zones 48, 49, 56 and 57, including Greenwater Provincial Park	Oct. 20 - Oct. 25	one elk, either sex	
	That portion of Zone 54 south of Highway No. 3	Nov. 10 - Nov. 15	one elk, either sex	
Special Moose	Zone 6	Oct. 27 - Nov. 1	one moose, either sex	– Licence quotas (in brackets) for each zone: 6(25), 37(100), 50(100), 48, 49 and 56 combined (300), 57(200), 58(200), 59(400), 60(200), 61(100), 62(50), 67(150), 55 and 68 combined (200), Greenwater Provincial Park (50)
	Zones 48, 49, 56, 57 to 62 and 67, including Leaf Lake Wildlife Management Unit	Sept. 15 - Sept. 20 and Nov. 3 - Nov. 15	one moose, either sex	
	Zones 55 and 68, including Bronson Forest Recreation Site	Nov. 3 - Nov. 15	one moose, either sex	
	Zone 37, including Duck Mountain Provincial Park	Nov. 3 - Nov. 8	one moose, either sex	
	Greenwater Provincial Park Only	Nov. 3 - Nov. 8	one moose, either sex	
	Zone 50, including Fort a la Corne Wildlife Management Unit	Sept. 15 - Sept. 27 and Nov. 3 - Nov. 15	one moose, either sex	
Moose (Archery)	Zones 55 and 68, including Bronson Forest Recreation Site	Sept. 15 - Sept. 27	one moose, either sex	– Archery moose licences valid only during the archery season, licence quota (100) for Zones 55 and 68 combined
Mule Deer	Zones 1, 3 to 8, 11, 19, 23 to 27, 29, 30 and 45, including Elbow Wildlife Management Unit, and Cypress Hills (West Block) Provincial Park	Nov. 3 - Nov. 8	one mule deer, either sex	– Licence quotas (in brackets) for each zone: 1(100), 2(1000), 3(300), 4(100), 5(300), 6(400), 7(300), 8(50), 9(500), 10(800), 11(50), 12(150), 13(400), 14(800), 19(200), 23(250), 24(250), 25(200), 26(250), 27(250), 29(150), 30(150), 45(100), 46(150). **Note: Primitive weapons only in Saskatchewan Landing Provincial Park.**
	Zone 46	Nov. 10 - Nov. 15	one mule deer, either sex	
	Zones 2, 9, 10, 12, 13 and 14, including Saskatchewan Landing Provincial Park	Nov. 3 - Nov. 5 or Nov. 6 - Nov. 8	one mule deer, either sex	
Antlerless Mule Deer	Zones 2, 6, 9, 10, 12, 13 and 14, including Saskatchewan Landing Provincial Park	Nov. 10 - Nov. 12 or Nov. 13 - Nov. 15	one antlerless mule deer	– "Antlerless Mule Deer" means a doe or a 1986 fawn. – Licence quotas (in brackets) for each zone: 1(75), 2(1000), 3(75), 4(150), 5(200), 6(500), 7(200), 8(50), 9(500), 10(1200), 11(100), 12(300), 13(800), 14(500), 19(150) **Note: Primitive weapons only in Saskatchewan Landing Provincial Park.**
	Zones 1, 3, 4, 5, 7, 8, 11 and 19, including Cypress Hills (West Block) Provincial Park	Nov. 10 - Nov. 12	one antlerless mule deer	
Mule Deer (Archery)	Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit, and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 1 - Oct. 4	one mule deer, either sex	– Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (800), 9 and 10 combined (150), 12(50) **Note: The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed until Sept. 3.**
	Zones 9, 10 and 12	Sept. 8 - Sept. 20	one mule deer, either sex	– Archery licences valid only in the archery season
Antlerless Mule Deer (Archery)	Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 1 - Oct. 4	one antlerless mule deer	– Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (200), 9 and 10 combined (150), 12(50). **Note: The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed until Sept. 3.**
	Zones 9, 10 and 12	Sept. 8 - Sept. 20	one antlerless mule deer	
Mule Deer (Muzzleloading Rifles)	Zones 1 to 10, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 29 - Oct. 11	one mule deer, either sex	– Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (100), 9 and 10 combined (50)
Antlerless Mule Deer (Muzzleloading Rifles)	Zones 1 to 10, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 29 - Oct. 11	one antlerless mule deer	– Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (100), 9 and 10 combined (50)

Appendix 2. 1986 Saskatchewan Big Game Draw Information Sheet and Application Form

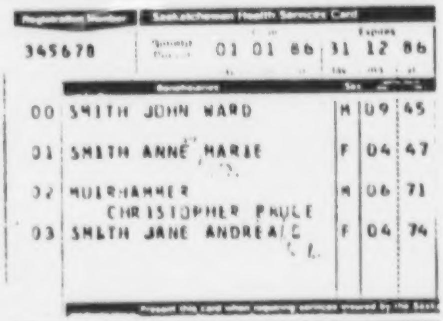
Saskatchewan
Parks and
Renewable
Resources
Hon. Colin Maxwell
Minister

1986 Saskatchewan Big Game Draw Information Sheet

(Residents of Saskatchewan Only)

1. Applicants will only be accepted on 1986 application envelopes.
2. Only Saskatchewan residents may apply for Big Game Draw licences. Applications from persons age 15 or younger will not be accepted, with the exception of persons 12 to 15 years of age in the Special Antlerless Mule Deer season (see Mule Deer section for more details). For all other species, applicants must be 16 before July 7, 1986.
3. Persons **17 years of age and younger and all first time hunters** must hold a Firearm or Hunter Safety certificate before applying.
4. **Deadline:** Applications must be received at the S.P.R.R. office, 3211 Albert Street, Regina, no later than 5:00 p.m. C.S.T., **July 7, 1986** to be eligible. Post Office date stamps are not acceptable.
5. No person shall submit an application if their hunting rights are still restricted for either a Wildlife Act conviction or a firearm accident as of July 7, 1986.
6. Each applicant **must** list their full registration **and** beneficiary number from their 1986 Saskatchewan Health Services Card. **Do not use** Health Region, M.S.I., or G.M.S. card numbers. Print your registration number first, followed by **your individual** beneficiary number, in this manner: 345678-00 (see sample S.H.S. Card). Permanent members of the Armed Forces use their Social Insurance number. R.C.M.P. use their regimental number. Mark the appropriate box on the application.

Each person on this card has a separate beneficiary number. Use your own beneficiary number (adjacent to your name) following your registration number on your application.



Registration Number
Saskatchewan Health Services Card
345678
01 01 86 | Expires 31 12 86
Beneficiaries | Sex
00 SMITH JOHN WARD M 09 45
01 SMITH ANNE MARIE F 04 47
02 MUIRHAMMER CHRISTOPHER PAULE M 06 71
03 SMITH JANE ANDREA F 04 74
Present this card when requiring services insured by the Sask

7. Complete your application form, printing your name **exactly** as it appears on your S.H.S. Card. Be sure to **complete both sides** of the application.
8. **Applications will be rejected** for any of the following reasons:
   — no licence fees, incorrect fees or unsigned cheques enclosed;
   — containing false or incomplete information;
   — containing special instructions;
   — containing ineligible names;
   — having a person's name appear on more than one application envelope for a particular species.

   NOTE: Supplying false or misleading information is a violation of The Wildlife Act.
9. A person may apply only **once** for each species: Elk, Moose, or Antelope (either archery or regular — **not both**). Applicants applying for Mule Deer may apply for both Regular (either-sex) Mule Deer and Antlerless Mule Deer. See the Mule Deer section for further details. **Please print the species in the appropriate box on the application form. A separate application is required** for each species.
10. Each application must be signed by one of the applicants. This person is responsible for the validity of the information provided.
11. Successful applicants for a Special Elk licence are **not** eligible to purchase a Regular Elk Licence. Successful applicants for a Special Moose Licence are not eligible to purchase a Regular Moose Licence.

12. **Licence fee: $30.00** for each applicant — same fee for all species. Licence fee **must** be included with the application. Send a cheque or money order (**no cash**) payable to Saskatchewan Parks and Renewable Resources. From 1 to 4 pesons may apply on one application envelope.

13. **Priority Pools:** The following priority pools apply to all species and seasons:
"Super A" — applications listing applicants who qualified for "A" Pool **and applied** in 1985 but were not drawn for that species (1st priority);
"A" — applications listing persons who did not have a licence for a particular species (either archery or regular) in 1984 or 1985 (2nd priority);
"B" — applications listing persons who obtained a licence (either archery or regular) in 1984 (3rd priority);
"C" — applications listing persons who had a licence (either archery or regular) in 1985 (4th priority).

    Please Note: Applications will receive the lowest priority of any applicant on the application. For example, if you apply on the same application with a person who was drawn for that species in 1984, your application will go into Pool "B".

14. **Zone Preference:** You may select from one to **six** management zones. List them in order of preference in boxes 1 to 6 by writing in the zone numbers. **CHECK THE MAP ON THE INSIDE PAGE (PAGE 5).**

15. **Split Seasons:** Applicants will have no choice of season dates in zones where split seasons are offered. If you are not willing to hunt in either of the split seasons, apply only for zones where split seasons do not occur.

16. **Antlerless Mule Deer Season:** Persons applying for Antlerless Mule Deer in 1986 may apply separately without going through the Regular Mule Deer draw first. Write the words "Antlerless Mule Deer" in the space provided for species on the application envelope. Please read the information outlined in the Mule Deer section for further details.

17. **Muzzleloading Mule Deer Season:** A muzzleloading Mule Deer season has been established for the 1986 hunting season. This season will be for Regular (either-sex) and Antlerless Mule deer. Persons apply by writing "Muzzleloader Mule Deer or "Muzzleloader Antlerless" in the species box on the application. See the Mule Deer section for more details.

18. **Archery Seasons:** Place an "X" in the box marked "archery" if you are applying for the Antelope, Mule Deer or Moose Archery seasons; otherwise leave blank.

    Antlerless Mule Deer licences will again be available for archers in 1986. For further details see the Mule Deer section.

    Note: Mule Deer applicants must list their zone preference on the application. Archery licences are valid only during the archery season.

19. Should you require additional information, please contact your nearest Saskatchewan Parks and Renewable Resources office.

    For further help in filling out your application, check the example on the back page.

ANTELOPE

ANTELOPE SEASON (either sex)

Oct. 29 - Nov. 5 — Zones 1 to 14, 19, 23 to 26

Combined Zones 2 and 5, 8 and 11, 12 and 13.

- Designate Zone 2 for combined Zones 2 and 5.
- Designate Zone 8 for combined Zones 8 and 11.
- Designate Zone 12 for combined Zones 12 and 13.

Antelope quotas will be set after the July surveys have been completed. If an Antelope season is held, licences will be issued on a zone basis. List zone preferenc on application.

ARCHERY ANTELOPE SEASON (either sex)

Sept. 1 - Oct. 4 — Combined Zones 1 to 15, 18, 19, 23 to 26 (300 licences).

- Designate Zone 1 for combined Zones 1 to 15, 18, 19, 23 to 26.

MULE DEER

Please read the following information carefully concerning Mule Deer.

The 1986 Mule Deer season will consist of a regular rifle season, a muzzleloading rifle season and an archery season. Each one of these seasons will include an **either-sex** hunt and an **Antlerless** hunt.

Hunters may apply for **only one** of the either-sex seasons for rifle, muzzleloading rifle or archery.

A change to the draw in 1986 allows hunters to apply separately for Antlerless Mule Deer. Applications are not required to go through the either-sex draw first as in previous years. Applicants may apply for **only one** of the Antlerless seasons for rifle, muzzleloading rifle or archery.

Hunters have the option of applying for either-sex, Antlerless or both. However, those hunters who apply for both will be eliminated from the Antlerless draw if successfully drawn in an either-sex season.

Hunters may apply for any combination of seasons but **can only apply for one either-sex season and one Antlerless season.**

> **Hunters applying for Zone 2 or 6 Regular Mule Deer and/or Regular Antlerless Mule Deer:** successful applicants receiving licences for these species in these zones will be offered the opportunity to purchase an additional licence to harvest one Antlerless White-tailed Deer. This additional hunting opportunity is part of an effort to reduce the number of does and fawns in the growing whitetail population in these zones, while limiting the number of licences available.

The Antlerless White-tailed Deer Licence is valid only during the **Regular** Mule Deer or Antlerless Mule Deer seasons in the respective zone. For example, a successful applicant for Zone 2 Regular Mule Deer may purchase an Antlerless White-tailed Deer licence valid only in Zone 2 during the Regular Mule Deer season for which they have been drawn.

The Antlerless White-tailed Deer licences will be available at Saskatchewan Parks and Renewable Resources Offices only. The licence fee is $25.

DEER (REGULAR MULE) Rifle

REGULAR MULE DEER SEASON (1 deer, either sex)

Apply by printing "**Mule Deer**" in the space provided on the application envelope.

Nov. 3 - Nov. 5

split season

Nov. 6 - Nov. 8

Zones 2, 9, 10, 12, 13 and 14 including Saskatchewan Landing Provincial Park.

Zone quotas per split season:
Zone 2 (500), Zone 9 (250),
Zone 10 (400), Zone 12 (75)
Zone 13 (200), Zone 14 (300)

***NOTE: Zone 13 and 14 Mule Deer hunters who wish to hunt in Saskatchewan Landing Provincial Park may hunt with primitive weapons only.**

Nov. 3 - Nov. 8 — Zones 1, 3 to 8, 11, 19, 23 to 27, 29, 30 and 45, including Elbow Wildlife Management Unit and Cypress Hills Provincial Park (West Block).

Nov. 10 - Nov. 15 — Zone 46

Zone Mule Deer Quotas

Zone 1 -	(100)	Zone 7 -	(300)	Zone 13 -	(400)	Zone 26 -	(250)
Zone 2 -	(1000)	Zone 8 -	(50)	Zone 14 -	(600)	Zone 27 -	(250)
Zone 3 -	(300)	Zone 9 -	(500)	Zone 19 -	(200)	Zone 29 -	(150)
Zone 4 -	(100)	Zone 10 -	(800)	Zone 23 -	(250)	Zone 30 -	(150)
Zone 5 -	(200)	Zone 11 -	(50)	Zone 24 -	(250)	Zone 45 -	(100)
Zone 6 -	(400)	Zone 12 -	(150)	Zone 25 -	(200)	Zone 46 -	(150)

REGULAR MULE

Muzzleloading

MUZZLELOADING RIFLE MULE DEER (1 deer, either sex)
Apply by printing **"Muzzleloading Mule Deer"** in the space provided on the application envelope.

Sept. 29 - Oct. 11	Combined Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit, and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks (100 licences). * Designate Zone 1 for combined Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46.
Sept. 29 - Oct. 11	Combined Zones 9 and 10 (50 licences). * Designate Zone 9 for combined Zones 9 and 10.

*Muzzleloading Rifle Mule Deer licence is valid only during the Muzzleloading season.

Archery

ARCHERY MULE DEER (1 deer, either sex)
Apply by printing **"Mule Deer" in the space provided and mark the archery box** on the application envelope.

Sept. 1 - Oct. 4	Combined Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit, and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks (800 licences). * Designate Zone 1 for combined Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46.

***NOTE: The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed until September 3.**

Sept. 3 - Sept. 20	Combined Zones 9 and 10 (150), Zone 12 (50). * Designate Zone 9 for combined Zones 9 and 10.

ANTLERLESS MULE DEER

Important changes have been made to the Antlerless Mule Deer draw for 1986.

Antlerless Mule Deer will be treated as a separate species. Hunters may apply for Antlerless Mule Deer separately, without going through the either-sex Mule Deer draw first as in previous years. Hunters may apply for **one** of the Antlerless seasons for rifle, muzzleloading rifle or archery.

Applicants have the option of also applying for one of the either-sex seasons. However, those who apply for both the either-sex and the Antlerless draw will have their application eliminated from the Antlerless draw, if successful in the either-sex draw. If you apply with different people on your Antlerless Mule Deer application than on your either-sex Mule Deer application, all applicants will be eliminated from the Antlerless draw if you are drawn in the either-sex season.

In 1986, persons 12 to 15 years of age may apply for a Regular (rifle) Antlerless Mule Deer licence. This is restricted to the Antlerless Mule Deer draw only, and does not include the muzzleloader or archery seasons.

NOTE: All applicants must hold a valid Firearm Safety/Hunter Education certificate. Applicants 12 to 15 years of age must include in the application envelope written consent from their parent or guardian to apply for and receive an Antlerless Mule Deer licence. Consent forms are available at SPRR, RCMP and Rural Municipality offices.

Definition of Antlerless Mule Deer: adult doe or a fawn born in 1986

Bag Limit: 1 Antlerless deer

Licence Fee: $30.00

Pool Priority and Status:
Antlerless Mule Deer licences will be issued on a priority pool basis. Your Antlerless priority will be based on when you last held an either-sex Mule Deer licence. Because Antlerless Mule Deer will be treated as a separate species, being drawn for Antlerless will not affect your either-sex Mule Deer status. Your status for Antlerless Mule Deer, if successfully drawn, will change to C-Pool in 1987.

Draw Procedure:
Remember — hunters interested in Antlerless Mule Deer may apply separately in 1986. Hunters have the option of applying for an either-sex licence, an Antlerless licence or both. Applicants successfully drawn in the either-sex draw who also applied for Antlerless Mule Deer will have their Antlerless application eliminated, including all persons on the application.

ANTLERLESS MULE DEER

Rifle

REGULAR ANTLERLESS MULE DEER (1 deer. Antlerless only)
Apply by printing **"Antlerless Mule Deer"** in the space provided on the application envelope. Remember, persons aged 12 to 15 may apply for a Regular Antlerless Mule Deer licence.

Nov. 10 to Nov. 12 **split season** Nov. 13 to Nov. 15	Zones 2. 6. 9. 10. 12. 13 and 14, including Saskatchewan Landing Provincial Park.	Zone quotas per split season: Zone 2 (500), Zone 6 (250), Zone 9 (250), Zone 10 (600), Zone 12 (150), Zone 13 (400) Zone 14 (250)

***NOTE: Zone 13 and 14 Antlerless Mule Deer hunters who wish to hunt in Saskatchewan Landing Provincial Park may hunt with primitive weapons only.**

Nov. 10 to Nov. 12	Zone 1. 3. 4. 5. 7. 8. 11 and 19, including Cypress Hills (West Block) Provincial Park.	No split season. Zone quotas listed below.

Zone Antlerless Mule Deer Quotas

Zone 1 - (75)	Zone 5 - (200)	Zone 9 - (500)	Zone 13 - (800)
Zone 2 - (1000)	Zone 6 - (500)	Zone 10 - (1200)	Zone 14 - (500)
Zone 3 - (75)	Zone 7 - (200)	Zone 11 - (100)	Zone 19 - (150)
Zone 4 - (150)	Zone 8 - (50)	Zone 12 - (300)	

Muzzleloading

MUZZLELOADING RIFLE ANTLERLESS MULE DEER (1 deer. Antlerless only)
Apply by printing **"Muzzleloading Antlerless"** in the space provided on the application envelope.

Sept. 29 - Oct. 11	Combined Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit, and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks (100 licences). • Designate Zone 1 for combined Zones 1 to 8, 13, 14 18 to 27, 29, 30, 45 and 46.
Sept. 29 to Oct. 11	Combined Zones 9 and 10 (50 licences). • Designate Zone 9 for combined Zones 9 and 10.
	• Muzzleloading Rifle Antlerless Mule Deer licence is valid only during the Muzzleloading season.

Archery

ARCHERY ANTLERLESS MULE DEER SEASON (1 deer, Antlerless only)
Apply by printing **"Antlerless Mule Deer" in the space provided and mark the archery box** on the application envelope.

Sept. 1 - Oct. 4	Combined Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit, Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks. (200 licences). • Designate Zone 1 for combined Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46.

***NOTE: The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed until September 3.**

Sept. 3 - Sept. 20	Combined Zones 9 and 10 (150), Zone 12 (50) • Designate Zone 9 for combined Zones 9 and 10

Results of the Big Game Draw will be available on August 13, 1986. The information number is 787-9071. Phone lines will be open from 9:00 a.m. to 9:00 p.m. on August 13, 14 and 15; and from 9:00 a.m. to 5:00 p.m. weekdays after August 15. Collect calls will not be accepted.

SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES

SEASON DATES (INCLUSIVE) AND TENTATIVE LICENCE QUOTAS (IN BRACKETS)

**Remember: Six zone choices are available on each application.
Licences in combined zones will be valid in all zones designated.**

ELK

SPECIAL ELK SEASON (either sex)

Sept. 1 - Sept. 20 & Nov. 3 - Nov. 15	Zone 50, south of Highway No. 55, including Fort a la Corne Wildlife Management Unit (275 licences).
Oct. 20 - Oct. 25	Combined Zones 48, 49, 56 and 57, including Greenwater Provincial Park (500 licences). * Designate Zone 48 for the combined Zones 48, 49, 56 and 57.
Oct. 27 - Nov. 1	Zone 33, including Moose Mountain Provincial Park (100 licences).
Oct. 20 - Oc.t 25	Zone 7, west of Highway #271 and Grid Road #615 including Cypress Hills Provincial Park, West Block (100 licences). * **NOTE: More Elk licences may be available for this season. If so, the season will be split and a second hunt added October 27 - November 1.**
Oct. 20 - Oct. 25	Combined Zone 6 and Zone 7 east of Highway #271 and Grid Road #615 (100 licences). * Designate Zone 6 for combined Zones 6 and 7.
Nov. 10 - Nov. 15	Zone 54, south of Highway #3 (50 licences).

MOOSE

SPECIAL MOOSE SEASON (either sex)

Sept. 15 - Sept. 20 & Nov. 3 - Nov. 15	Combined Zones 48, 49 and 56, Zones 57 to 62, and 67, including Leaf Lake Wildlife Management Unit. * Designate Zone 48 for combined Zones 48, 49, and 56.
Nov. 3 - Nov. 15	Combined Zones 68 and 55, including Bronson Forest Recreation Site. * Designate Zone 68 for the combined Zones 68 and 55.
Nov. 3 - Nov. 8	Zone 37, including Duck Mountain Provincial Park.
Nov. 3 - Nov. 8	Zone 56G, Greenwater Provincial Park only. * Designate 56G for Greenwater Provincial Park.
Sept. 15 - Sept. 27 & Nov. 3 - Nov. 15	Zone 50, including Fort a la Corne Wildlife Management Unit.
Oct. 27 - Nov. 1	Zone 6.

Zone Moose Quotas

Zone 6 -	(25)	Zone 59 -	(400)
Zone 37 -	(100)	Zone 60 -	(200)
Zones 48, 49 & 56 -	(300)	Zone 61 -	(100)
Zone 57 -	(200)	Zone 62 -	(50)
Zone 58 -	(200)	Zone 67 -	(150)
		Zone 68 & 55 -	(200)

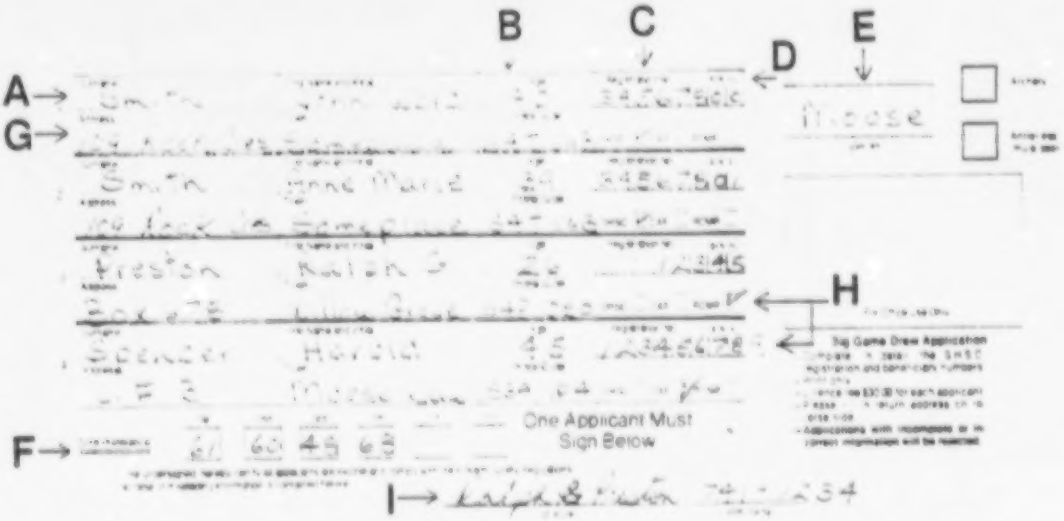
Zone 50, including Fort a la Corne Wildlife Management Unit - (100)
Zone 56G, Greenwater Provincial Park only - (50)

ARCHERY MOOSE SEASON (either sex)

Sept. 15 - Sept. 27	Combined Zones 68 and 55, including Bronson Forest Recreation Site (100 licences). * Designate Zone 68 for combined Zones 68 and 55.

SAMPLE BIG GAME DRAW APPLICATION

Applying for the Big Game Draw is not difficult. The department needs the basic information to enter you in the draw: who you are, where you live, what species you want to hunt and where. Follow the example below to help you in filling out your application envelope. **Remember, applications with incomplete or incorrect information will be rejected.**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F
G
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I
Smith
Smith Anne Marie
Preston Ralph
Spencer Harold
Moose
67 60 45 63
One Applicant Must Sign Below
Big Game Draw Application

A. Write down your name so we know who is applying. With your last name first, print your name **exactly** as it appears on your Health Services Card. **Do not use nicknames.**

B. Enter your correct age.

C. Be sure you have written your Health Services number correctly. This number verifies that you are a Saskatchewan resident, and is used to confirm when you last held a draw licence.

D. Remember to use your beneficiary number. This number is found beside your name on your Health Services Card.

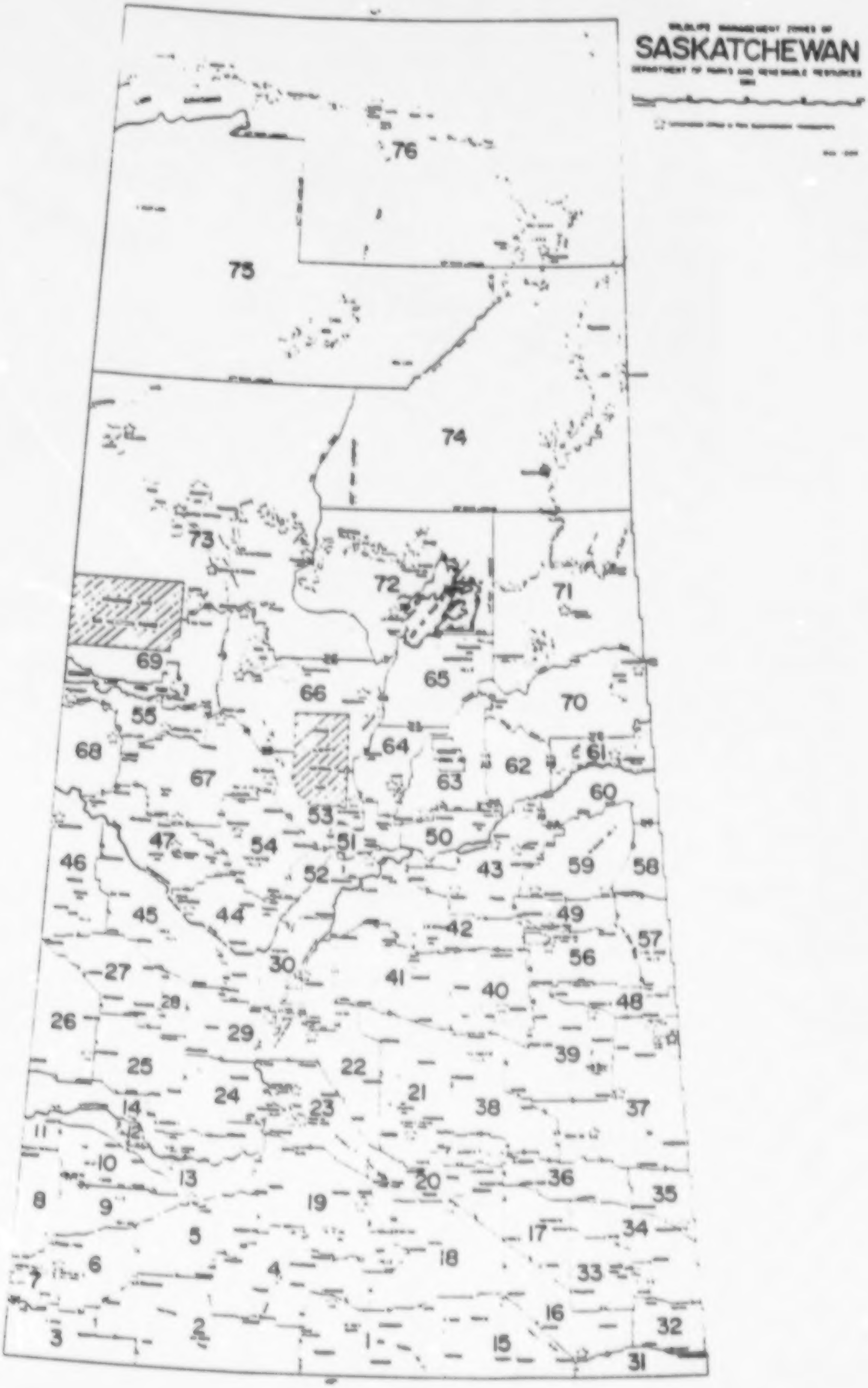
E. Tell us the species you want to hunt: Elk, Moose, Mule Deer (see Mule Deer section) or Antelope.

F. Where would you like to hunt? You can apply for one zone or as many as six. If your application is selected, the computer will look at your first choice. If the quota for that zone was filled before your application was picked, the computer will select your second choice and so on.

G. Include your correct mailing address so your licence can be sent to you.

H. If you are a member of the R.C.M.P. or the Armed Forces, follow this example for entering your number. R.C.M.P. use their Regimental number. Armed Forces use their Social Insurance number.

I. Make sure one of the applicants signs the application to verify it is correct. Include your phone number; we may want to get in touch with you to clarify the information.


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
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Appendix 3. 1986 Saskatchewan Big Game Hunter Questionnaire

Saskatchewan Parks and Renewable Resources
Hon. Colin Maxwell Minister
1986 Big Game Hunter Survey

A MESSAGE FROM THE DIRECTOR OF WILDLIFE

Fellow Sportsman:

We are again asking for your support with the Big Game Hunter Survey.

Please use the attached form to record your big game hunting activities, then mail the form in the enclosed postage paid envelope when you are finished hunting for the year.

As a hunter, you will be interested in the results of last year's survey. The enclosed page, which is yours to keep, summarizes the 1985 big game harvest.

This survey provides the information we need to set responsible quotas and season dates and ensures that the sportsmen of Saskatchewan will continue to enjoy recreational hunting opportunities in the future. Because the names for the survey are selected randomly every year for statistical accuracy, you may receive a questionnaire two or more years in a row.

We greatly appreciate your assisting with the Big Game Hunter Survey. By doing so, you contribute to better wildlife management in Saskatchewan.

Hoping your 1986 hunting season is successful.

Dennis Sherratt
Director
Wildlife Branch
Saskatchewan Parks and Renewable Resources

1986 Big Game Hunter Survey

1. **If you did not purchase a 1986 Saskatchewan Big Game Licence please check ✓ here ☐ and return immediately. Thank You.**
2. If you **did** purchase a 1986 Saskatchewan Big Game Licence please fill out the following questionnaire, and return it upon the completion of your hunting.
3. Check ☑ each Saskatchewan Big Game Licence you purchased and each Big Game season that you hunted in Saskatchewan in 1986. **If you purchased a Special Draw licence but did not hunt, please indicate in which zone you were drawn.**
4. **Please record all your hunting activities, whether or not you bagged an animal.**
   - Use the following guide for recording hunting time: (4 or more hours = 1 day ; less than 4 hours = ½ day)
   - If you hunted in more than one zone in a day, separate accordingly (see sample)
   - If you killed more than one animal use a separate line of kill information for each (see sample)
5. The number/alphabetical codes (ex. 01, 1R1, 2D1, etc.) are for office use only to permit computer analysis of the hunting information.
6. Woodland Caribou and Guided Moose Hunters will be sampled separately.

WHITE-TAILED DEER (01)

Licences Purchased

Regular Either Sex	Antlerless (WMZ 2 or 6)	Archery	Muzzleloader
☑	☐	☐	☐

Season Hunted

Regular Either Sex	Antlerless (WMZ 2 or 6)	Archery	Muzzleloader
☐	☐	☐	☐

HUNT INFORMATION

REGULAR (Either Sex) (1R1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Oct 6 - 18							
Nov 3 - 8							
Nov 10 - 15							
Nov 17 - 22		16					
Nov 24 - 29							

KILL Mo 11 Day 17 Zone 16 Animal was (✓) Buck ___ Doe ✓ Fawn ___

ANTLERLESS (WMZ 2 or 6 only) (1K1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days
Nov 3 - 8			
Nov 10 - 15			

KILL Mo ___ Day ___ Zone ___ Animal was (✓) Doe ___ Fawn ___

ARCHERY (1A1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Sept 1 - 13							
Sept 15 - 27							
Sept 29 - Oct 11							

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Buck ___ Doe ___ Fawn ___

MUZZLELOADING (1M1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Sept 29 - Oct 4							
Oct 6 - 11							

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Buck ___ Doe ___ Fawn ___

112 39121

MULE DEER (02)

Licences Purchased

Regular (rifle) Either Sex	Regular (rifle) Antlerless	Archery Either Sex	Archery Antlerless	Muzzleloader Either Sex	Muzzleloader Antlerless
☐	☐	☐	☐	☐	☐
Zone ☐		Zone ☐		Zone ☐	

Season Hunted

Regular (rifle) Either Sex	Regular (rifle) Antlerless	Archery Either Sex	Archery Antlerless	Muzzleloader Either Sex	Muzzleloader Antlerless
☐	☐	☐	☐	☐	☐

HUNT INFORMATION

REGULAR (Either Sex) (2D1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days
Nov 3 - 5			
Nov 6 - 8			
Nov 10 - 15			

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Buck ___ Doe ___ Fawn ___

REGULAR (Antlerless) (2X1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days
Nov 10 - 12			
Nov 13 - 15			

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Doe ___ Fawn ___

ARCHERY (Either Sex) (2A1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Sept 1 - Oct 4							

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Buck ___ Doe ___ Fawn ___

ARCHERY (Antlerless) (2B1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Sept 1 - Oct 4							

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Doe ___ Fawn ___

MUZZLELOADING (Either Sex) (2M1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Sept 29 - Oct 4							
Oct 6 - 11							

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Buck ___ Doe ___ Fawn ___

MUZZLELOADING (Antlerless) (2N1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Sept 29 - Oct 4							
Oct 6 - 11							

KILL Mo Day Zone Animal was (✓)

MOOSE (03)

Licences Purchased

Regular (Bull Calf)	Special Either Sex	Special Archery
☐	☐	☐
	Zone ☐	

Season Hunted

Regular (Bull Calf)	Special Either Sex	Special Archery
☐	☐	☐

HUNT INFORMATION

REGULAR (Bulls & Calves Only) (3R1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
Sept 1 - 29							
Oct 6 - 11							
Nov 3 - 8							
Nov 10 - 15							
Nov 17 - 22							
Nov 24 - 29							

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Bull ___ Calf ___

SPECIAL (Either Sex) (3D1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days
Sept 15 - 20			
Sept 22 - 27			
Oct 27 - Nov 1			
Nov 3 - 8			
Nov 10 - 15			

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Bull ___ Cow ___ Calf ___

ARCHERY (Either Sex) (3A1)

SEASON DATE	WEEK HUNTED (✓)	Zone	Days
Sept 15 - 27			

KILL Mo ☐ Day ☐ Zone ☐ Animal was (✓) Bull ___ Cow ___ Calf ___

7. SAMPLE:

WHITE-TAILED DEER (01)

Licences Purchased

Regular Either Sex	Antlerless (WMZ 2 or 6)	Archery	Muzzleloader
☑	☐	☐	☐

Season Hunted

Regular Either Sex	Antlerless (WMZ 2 or 6)	Archery	Muzzleloader
✓	☐	☐	☐

HUNT INFORMATION

SEASON DATE	WEEK HUNTED (✓)	No. of Days Hunted Zone	Days	Zone	Days	Zone	Days
REGULAR (Either Sex)							**(1R1)**
Nov 17 - 22	✓	1		2	1	3	
Nov 24 - 29	✓	1	1	2	2		

KILL Mo 11 Day 2 Zone 1 **Animal was (✓)** Buck ___ Doe ___ Fawn ✓

8. 1986 Calendar

APRIL						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

AUGUST						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24/31	25	26	27	28	29	30

SEPTEMBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

DECEMBER						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

ANTELOPE (04)

Licences Purchased

Regular ☐ Zone ☐ | Archery ☐ Zone ☐

Season Hunted

Regular ☐ | Archery ☐

HUNT INFORMATION

SEASON DATE	WEEK HUNTED (✓)	No. of Days Hunted Zone	Days	Zone	Days	Zone	Days
REGULAR							**(4D1)**
Oct 29 - Nov 5	___	☐	☐				

KILL Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Buck ___ Doe ___ Kid ___

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
ARCHERY							**(4A1)**
Sept 1 - Oct 4	___	☐	☐	☐	☐	☐	☐

KILL Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Buck ___ Doe ___ Kid ___

ELK (05)

Licences Purchased

Regular (Bulls Only) ☐ | Special Either Sex ☐ Zone ☐

Season Hunted

Regular (Bulls Only) ☐ | Special Either Sex ☐

HUNT INFORMATION

SEASON DATE	WEEK HUNTED (✓)	No. of Days Hunted Zone	Days	Zone	Days	Zone	Days
REGULAR (Bulls Only)							**(5R1)**
Sept 15 - 20	___	☐	☐	☐	☐	☐	☐
Sept 22 - 27	___	☐	☐	☐	☐	☐	☐
Nov 24 - Dec 13	___	☐	☐	☐	☐	☐	☐

KILL Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Bull ___

SEASON DATE	WEEK HUNTED (✓)	Zone	Days
REGULAR (Either Sex WMZ 53)			**(5R1)**
Nov 24 - Dec 13	___	53	☐

KILL Mo ☐ Day ☐ Zone 53 **Animal was (✓)** Bull ___ Cow ___ Calf ___

SEASON DATE	WEEK HUNTED (✓)	Zone	Days
SPECIAL (Either Sex)			**(5D1)**
Sept 1 - 20	___	32	☐
Oct 20 - 25	___	☐	☐
Oct 27 - Nov 1	___	☐	☐
Nov 3 - 8	___	35	☐
Nov 10 - 15	___	☐	☐

KILL Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Bull ___ Cow ___ Calf ___

BEAR (08)

Licences Purchased

1st ☐ | 2nd ☐ | Free ☐

Season Hunted

1st ☐ | 2nd ☐ | Free ☐

HUNT INFORMATION

SEASON DATE	WEEK HUNTED (✓)	No. of Days Hunted Zone	Days	Zone	Days	Zone	Days
REGULAR (1st)							**(8R1)**
Apr 14 - May 17	___	☐	☐	☐	☐	☐	☐
May 19 - June 28	___	☐	☐	☐	☐	☐	☐
Aug 25 - Sept 13	___	☐	☐	☐	☐	☐	☐
Sept 15 - Oct 4	___	☐	☐	☐	☐	☐	☐
Oct 6 - 18	___	☐	☐	☐	☐	☐	☐

KILL Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Boar ___ Sow ___ Cub ___

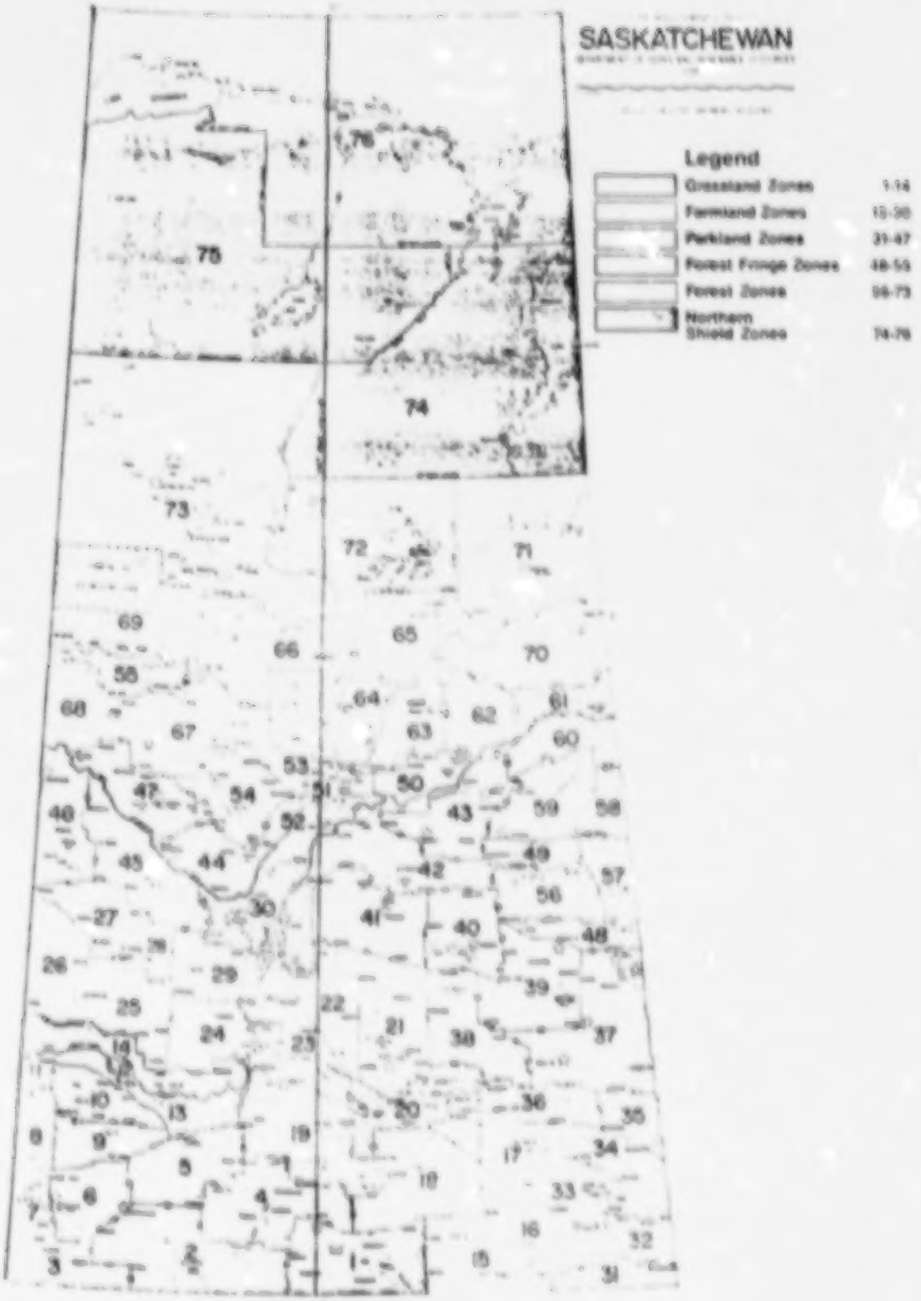
SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
REGULAR (2nd)							**(8R2)**
Apr 14 - May 17	___	☐	☐	☐	☐	☐	☐
May 19 - June 28	___	☐	☐	☐	☐	☐	☐
Aug 25 - Sept 13	___	☐	☐	☐	☐	☐	☐
Sept 15 - Oct 4	___	☐	☐	☐	☐	☐	☐
Oct 6 - 18	___	☐	☐	☐	☐	☐	☐

KILL Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Boar ___ Sow ___ Cub ___

SEASON DATE	WEEK HUNTED (✓)	Zone	Days	Zone	Days	Zone	Days
FREE							**(8T1)**
Apr 14 - May 17	___	☐	☐	☐	☐	☐	☐
May 19 - June 28	___	☐	☐	☐	☐	☐	☐
Aug 25 - Sept 13	___	☐	☐	☐	☐	☐	☐
Sept 15 - Oct 4	___	☐	☐	☐	☐	☐	☐
Oct 6 - 18	___	☐	☐	☐	☐	☐	☐

KILL 1 Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Boar ___ Sow ___ Cub ___

KILL 2 Mo ☐ Day ☐ Zone ☐ **Animal was (✓)** Boar ___ Sow ___ Cub ___


SASKATCHEWAN
Legend
Grassland Zones 1-14
Farmland Zones 15-30
Parkland Zones 31-47
Forest Fringe Zones 48-55
Forest Zones 56-73
Northern Shield Zones 74-76
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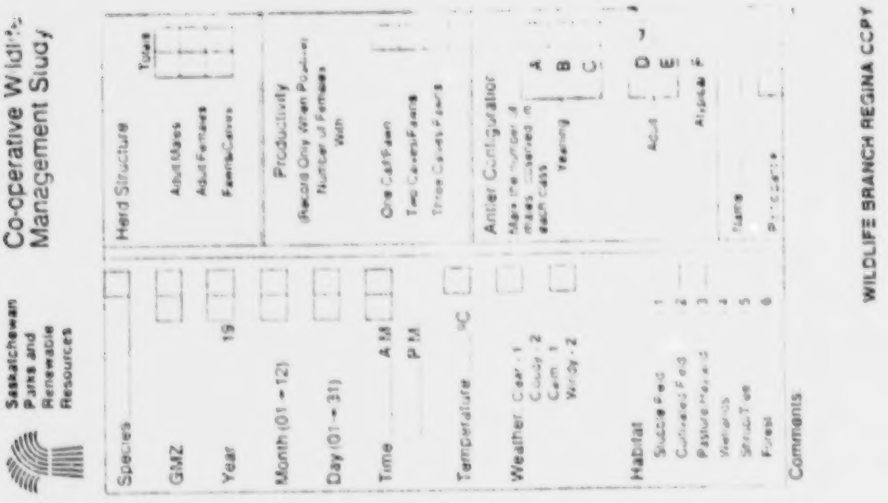
Appendix 4. 1986 Co-operative Wildlife Management Study Form



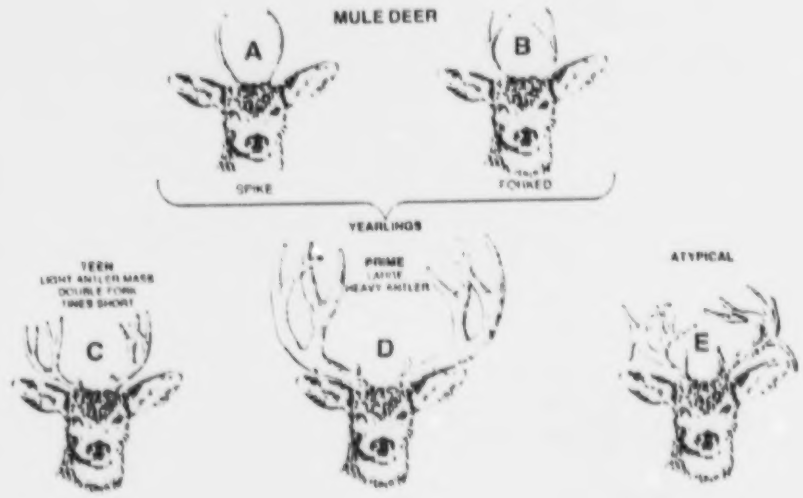
Saskatchewan
Parks and
Renewable
Resources

Co-operative Wildlife
Management Study

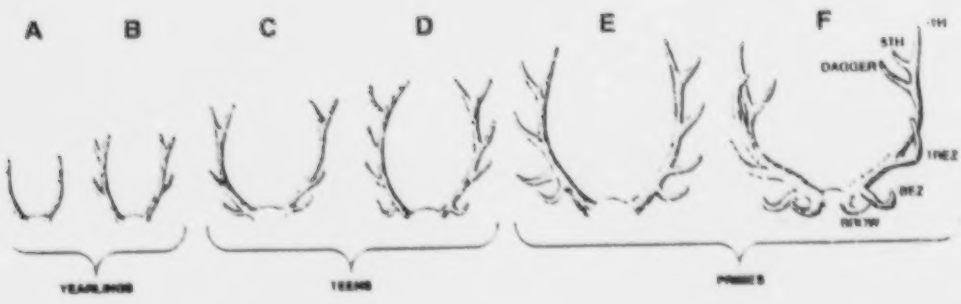
Species ______ ☐	**Herd Structure**
GMZ ☐☐	Totals
Year 19☐☐	Adult Males ☐☐☐
Month (01 → 12) ☐☐	Adult Females ☐☐☐
Day (01 → 31) ☐☐	Fawns/Calves ☐☐☐
Time ______ A.M. ☐☐	**Productivity**
______ P.M.	(Record Only When Positive) Number of Females With
Temperature ______ °C ☐	One Calf/Fawn ☐☐
Weather: Clear - 1 Cloudy - 2 ☐	Two Calves/Fawns ☐☐
Calm - 1 Windy - 2 ☐	Three Calves/Fawns ☐☐
Habitat	**Antler Configuration**
Stubble Field 1	Mark the number of males observed in each class
Cultivated Field 2	Yearling A ☐ B ☐ C ☐
Pasture/Hayland 3	Adult D ☐ E ☐
Wetlands 4	Atypical F ☐
Shrub/Tree 5	Name ______
Forest 6	Participant ☐

Comments

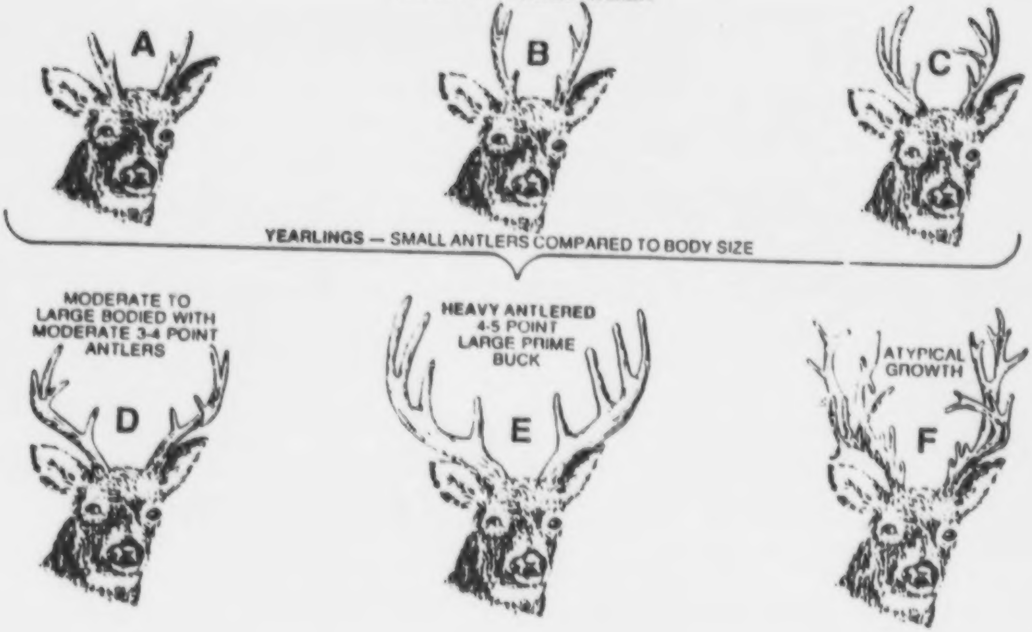
WILDLIFE BRANCH REGINA COPY


MULE DEER
A
B
SPIKE
FORKED
YEARLINGS
TEEN
LIGHT ANTLER MASS
DOUBLE FORK
TINES SHORT
PRIME
LARGE
HEAVY ANTLER
ATYPICAL
C
D
E

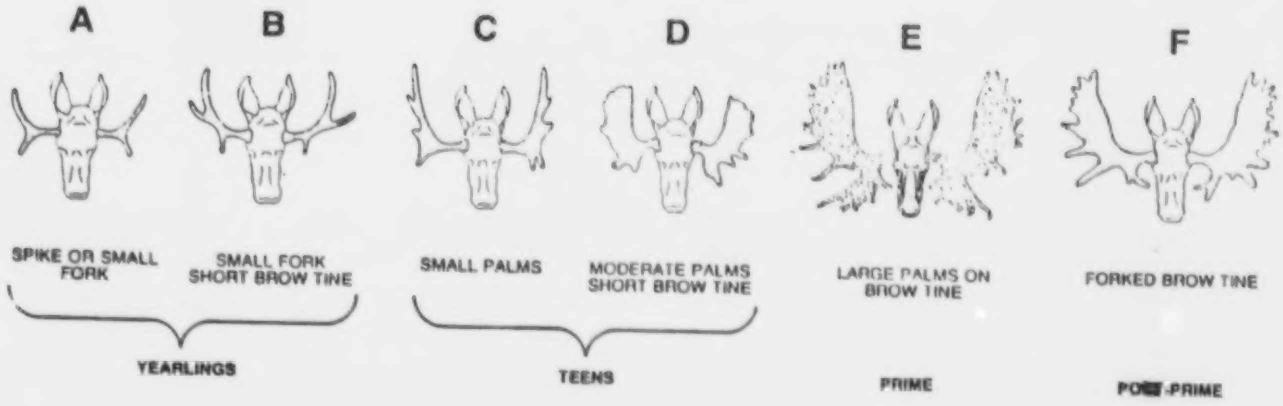
ELK


A
B
C
D
E
F
TH
5TH
DAGGER
TREZ
BEZ
BROW
YEARLINGS
TEENS
PRIMES

WHITE - TAILED DEER


A
B
C
YEARLINGS — SMALL ANTLERS COMPARED TO BODY SIZE
MODERATE TO LARGE BODIED WITH MODERATE 3-4 POINT ANTLERS
D
HEAVY ANTLERED 4-5 POINT LARGE PRIME BUCK
E
ATYPICAL GROWTH
F

MOOSE


A
B
C
D
E
F
SPIKE OR SMALL FORK
SMALL FORK SHORT BROW TINE
SMALL PALMS
MODERATE PALMS SHORT BROW TINE
LARGE PALMS ON BROW TINE
FORKED BROW TINE
YEARLINGS
TEENS
PRIME
POST-PRIME

Appendix 5. Areas of New Wildlife Management Zones

Zone	Area in Km^2	Zone	Area in Km^2
P.A.N.P.	**3 874**	PRIMROSE A.W.R.	**5 987**
1	8 321	2	10 640
3	4 297	4	8 118
5	5 966	6	4 195
7	1 895	8	3 393
9	3 435	10	3 546
11	985	12	344
13	4 084	14	5 580
GRASSLAND TOTAL			**64 799**
15	6 724	16	5 307
17	3 823	18	7 448
19	9 221	20	5 534
21	8 382	22	4 732
23	5 740	24	4 829
25	5 818	26	4 415
27	4 914	28	1 355
29	5 333	30	7 251
FARMLANDS TOTAL			**90 826**
31	2 522	32	2 790
33	3 883	34	5 386
35	2 614	36	5 185
37	11 315	38	6 412
39	7 603	40	5 414
41	7 212	42	7 413
43	6 777	44	4 577
45	7 665	46	5 959
47	5 719		
PARKLANDS TOTAL			**98 446**
48	2 531	49	2 395
50	3 333	51	2 873
52	2 913	53	2 772
54	5 696	55	3 749
FOREST FRINGE TOTAL			**26 262**
56	4 727	57	3 308
58	2 245	59	5 862
60	3 837	61	3 040
62	3 735	63	5 659
64	3 544	65	6 521
* 66	11 280	67	8 675
68	4 158	** 69	7 750
70	8 499	71	17 990
72	18 381	73	45 909
FOREST TOTAL			**165 120**
74	45 416	75	56 558
76	79 825		
NORTHERN SHIELD TOTAL			**181 799**
PROVINCIAL TOTAL			**637 113**

* excludes P.A.N.P.

** excludes Primrose A.W.R.

Appendix 6. Saskatchewan 1986 Game Bird Seasons

Game Birds

1986 Game Bird Seasons

Upland Game Birds

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Bag Limit
Sharp-tailed Grouse	Zones 1 to 47, including Last Mountain Lake Wildlife Management Unit; and starting Sept. 29, Elbow, Estevan-Cambria and Lomond No. 3 (at Maxim) Wildlife Management Units	Sept. 22 - Nov. 15	3 daily 6 possession
Non-residents of Canada may not hunt Sharp-tailed Grouse in Zones 9 to 14 and 25 to 28	Zones 48 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne Wildlife Management Unit and Bronson Forest Recreation Site	Sept. 8 - Nov. 29	3 daily 6 possession
Hungarian Partridge	Zones 1 to 15, 18, 19 and 31; and starting Sept. 29, Estevan-Cambria and Lomond No. 3 (at Maxim) Wildlife Management Units	Sept. 22 - Nov. 15	10 daily 20 possession
Non-residents of Canada may not hunt Hungarian Partridge in Zones 9 to 14 and 25 to 28	Zones 16, 17 and 20 to 29 including Last Mountain Lake Wildlife Management Unit; and starting Sept. 29, Elbow Wildlife Management Unit	Sept. 22 - Nov. 15	5 daily 10 possession
	Zones 30 and 32 to 55, including Fort a la Corne Wildlife Management Unit	Sept. 22 - Nov. 15	3 daily 6 possession
Pheasants (Cocks Only) Sask. Residents Only may hunt Pheasants	Zones 1 to 36, including Elbow, Estevan-Cambria and Lomond No. 3 (at Maxim) Wildlife Management Units	Oct. 1 - Nov. 15	3 daily 6 possession
Ruffed Grouse	Zones 1 to 47, including Last Mountain Lake and Elbow Wildlife Management Units; and Moose Mountain and Duck Mountain Provincial Parks	Sept. 22 - Nov. 15	5 daily 10 possession
	Zones 48 to 76, including Fort a la Corne Wildlife Management Unit; Clearwater River, Greenwater, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept. 8 - Nov. 29	5 daily 10 possession
Spruce Grouse	Zone 43	Sept. 22 - Nov. 15	5 daily 10 possession
	Zones 48 to 76, including Fort a la Corne Wildlife Management Unit; Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept. 8 - Nov. 29	5 daily 10 possession
Ptarmigan	Zones 61 to 66, 69 to 76, including Clearwater River and Lac La Ronge Provincial Parks	Nov. 17 - Mar. 14, 1987	10 daily 20 possession

Waterfowl

Ducks	Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 17, Last Mountain Lake Wildlife Management Unit	Sept. 15 - Dec. 13	6 daily (4 only may be mallards) 12 possession (8 only may be mallards)
	Zones 43, 48 to 51, and 53 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne and Horsehide Lake Wildlife Management Units; and Bronson Forest Recreation Site	Sept. 1 - Dec. 13	6 daily (4 only may be mallards) 12 possession (8 only may be mallards)
Coots and Common Snipe	Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 17, Last Mountain Lake Wildlife Management Unit	Sept. 15 - Dec. 13	10 daily 20 possession
	Zones 43, 48 to 51, and 53 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne and Horsehide Lake Wildlife Management Units; and Bronson Forest Recreation Site	Sept. 1 - Dec. 13	10 daily 20 possession
Sandhill Cranes Non-residents of Canada may not hunt Sandhill Cranes	Zones 19, 21 to 24, 29, 30, 37 to 42, 44 and 52	Sept. 1 - Sept. 16	5 daily 10 possession
	Zones 11 to 14	Sept. 10 - Sept. 23	5 daily 10 possession
Geese Goose season for Canadian Residents and Non-residents of Canada begins on October 1 in Zones 1 to 52, 54, 56 and 57	Zones 1 to 14, 19, and 22 to 29, including Elbow Wildlife Management Unit	Sept. 24 - Dec. 13	5 daily (2 only may be white-fronted geese) 10 possession (4 only may be white-fronted geese)
	Zones 15 to 18, 20, 21, 30 to 42, 44 to 47, and 52, including Valeport and Last Mountain Lake Wildlife Management Units	Sept. 17 - Dec. 13	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)
	Zones 43, 48 to 51, and 53 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne and Horsehide Lake Wildlife Management Units; and Bronson Forest Recreation Site	Sept. 1 - Dec. 13	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)
	NOTE: Starting Oct. 1 in Zones 15 to 18, 20 to 22, 30 to 43 and 48 to 76: 3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in possession Starting Oct. 15 in Zones 1 to 14, 19, 23 to 29 and 44 to 47: 3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in possession		
	NOTE: Prior to Oct. 19, in Zones 1 to 59, 67, 68 and 69, any open season for geese includes that portion of the day from one-half hour before sunrise to 12:00 noon local time. From Oct. 20 to Dec. 13 geese may be hunted all day in all open zones		

Appendix 7. 1987 GAME BIRD SEASONS

nd Game Birds

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Bag Limit
Sharp-tailed Grouse (All Hunters)	Zones 1 to 8, 15 to 19, 23, 24, 29 and 31 to 33, and starting Oct. 7, Elbow, Estevan-Cambria, and Lomond No. 3 (at Maxim) Wildlife Management Units	Sept 21 - Nov 14	5 daily 10 possession
	Zones 20 to 22, 30 and 34 to 47, including Last Mountain Lake Wildlife Management Unit	Sept 21 - Nov 14	3 daily 6 possession
	Zones 48 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks, Fort a la Corne Wildlife Management Unit, and Bronson Forest Recreation Site	Sept 14 - Nov 28	3 daily 6 possession
Sharp-tailed Grouse (Sask. Residents and Canadian Residents Only)	**Zones 9 to 14 and 25 to 28**	**Sept. 21 - Nov. 14**	**5 daily 10 possession**
Hungarian Partridge (All Hunters)	Zones 1 to 8, 15 to 19, 22 to 24, 29 and 31, and starting Oct. 7, Elbow, Estevan-Cambria and Lomond No. 3 (at Maxim) Wildlife Management Units	Sept 21 - Nov 14	10 daily 20 possession
	Zones 20, 21, 30 and 32 to 34, including Last Mountain Lake Wildlife Management Unit	Sept 21 - Nov 14	5 daily 10 possession
	Zones 35 to 55, including Fort a la Corne Wildlife Management Unit	Sept 21 - Nov 14	3 daily 6 possession
Hungarian Partridge (Sask. Residents and Canadian Residents Only)	**Zones 9 to 14**	**Sept. 21 - Nov. 14**	**10 daily 20 possession**
	Zones 25 to 28	**Sept. 21 - Nov. 14**	**5 daily 10 possession**
Pheasants (Sask. Residents Only May Hunt Cocks Only)	Zones 1 to 36, including Elbow, Estevan-Cambria and Lomond No. 3 (at Maxim) Wildlife Management Units	Oct 7 - Nov 14	3 daily 6 possession
	Zones 1 to 20 and 31, including Estevan-Cambria and Lomond No. 3 (at Maxim) Wildlife Management Units	Nov 30 - Dec 19	3 daily 6 possession
Ruffed Grouse (All Hunters)	**Zones 1 to 47, including Last Mountain Lake and Elbow Wildlife Management Units; and Moose Mountain and Duck Mountain Provincial Parks**	**Sept. 21 - Nov. 14**	**5 daily 10 possession**
	Zones 48 to 76, including Fort a la Corne Wildlife Management Unit; Clearwater River, Greenwater, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; and Bronson Forest Recreation Site	**Sept. 14 - Nov. 28**	**10 daily 20 possession**
Spruce Grouse (All Hunters)	Zone 43	Sept 21 - Nov 14	5 daily 10 possession
	Zones 48 to 76, including Fort a la Corne Wildlife Management Unit, Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks, and Bronson Forest Recreation Site	Sept. 14 - Nov 28	10 daily 20 possession
Ptarmigan (All Hunters)	**Zones 61 to 66 and 69 to 76, including Clearwater River and Lac La Ronge Provincial Parks**	**Nov. 18 - Mar. 31, 1988**	**10 daily 20 possession**

Waterfowl

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Bag Limit
Ducks (All Hunters)	Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units, and starting Sept. 16, Last Mountain Lake Wildlife Management Unit	Sept. 14 - Dec. 12	6 daily (4 only may be mallards) 12 possession (8 only may be mallards)
	Zones 43, 48 to 51, and 53 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne and Horsehide Lake Wildlife Management Units, and Bronson Forest Recreation Site	Sept. 1 - Dec. 12	6 daily (4 only may be mallards) 12 possession (8 only may be mallards)
American Coots and Common Snipe (All Hunters)	**Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 16, Last Mountain Lake Wildlife Management Unit**	**Sept. 14 - Dec. 12**	**10 daily 20 possession**
	Zones 43, 48 to 51, and 53 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne and Horsehide Lake Wildlife Management Units; and Bronson Forest Recreation Site	**Sept. 1 - Dec. 12**	**10 daily 20 possession**
Sandhill Cranes (Sask. Residents and Canadian Residents Only)	Zones 19, 21 to 24, 29, 30, 37 to 42, 44 and 52	Sept. 1 - Sept. 15	5 daily 10 possession
	Zones 11 to 14	Sept. 9 - Sept. 22	5 daily 10 possession
Geese (Sask. Residents Only)	**Zones 1 to 14, 19, and 22 to 29, including Elbow Wildlife Management Unit**	**Sept. 23 - Dec. 12**	**5 daily (2 only may be white-fronted geese) 10 possession (4 only may be white-fronted geese)**
	Zones 15 to 18, 20, 21, 30 to 42, 44 to 47, and 52, including Valeport and Last Mountain Lake Wildlife Management Units	**Sept. 16 - Dec. 12**	**5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)**
	Zones 43, 48 to 51, and 53 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne and Horsehide Lake Wildlife Management Units; and Bronson Forest Recreation Site	**Sept. 1 - Dec. 12**	**5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)**
Geese (Canadian Residents and Non-residents)	Zones 1 to 14, 19, and 22 to 29, including Elbow Wildlife Management Unit	Sept. 30 - Dec. 12	5 daily (2 only may be white-fronted geese) 10 possession (4 only may be white-fronted geese)
	Zones 15 to 18, 20, 21, 30 to 52, 54, 56 and 57, including Valeport, Last Mountain Lake, Horsehide Lake and Fort a la Corne Wildlife Management Units	Sept. 30 - Dec. 12	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)
	Zones 53, 55 and 58 to 76, including Clearwater River, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks and Bronson Forest Recreation Site	Sept. 1 - Dec. 12	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)

All hunters please Note: Starting Sept. 30 in Zones 15 to 18, 20 to 22, 30 to 43 and 48 to 76
3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in posssession

Starting Oct. 14 in Zones 1 to 14, 19, 23 to 29 and 44 to 47
3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in possession

Note: Prior to Oct. 18, in Zones 1 to 59, 67, 68 and 69, any open season for geese includes that portion of the day from one-half hour before sunrise to 12:00 noon local time. From Oct. 19 to Dec. 12, geese may be hunted all day in all open zones

Appendix 8 (a-f). Recent Saskatchewan Game Bird Hunting Regulations

Appendix 8a. Saskatchewan **Duck** Hunting Regulations, 1975-1986

Year	Area* (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag)
1975	1-22	Sept 8 - Dec 20	8 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 13	8 (1 redhead or canvasback)
1976	1-22	Sept 8 - Dec 18	8 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 11	8 (1 redhead or canvasback)
1977	1-22	Sept 8 - Dec 17	6 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 10	6 (1 redhead or canvasback)
1978	1-22	Sept 11 - Dec 16	6
	23-37	Sept 1 - Dec 9	6
1979	1-22	Sept 10 - Dec 15	8
	23-37	Sept 1 - Dec 8	8
1980	1-22	Sept 8 - Dec 13	8
	23-37	Sept 1 - Dec 6	8
1981**	1-22	Sept 7 - Dec 12	8
	23-37	Sept 1 - Dec 5	8
1982	1-22	Sept 8 - Dec 11	8
	23-37	Sept 1 - Dec 4	8
1983	1-22	Sept 7 - Dec 10	8
	23-37	Sept 1 - Dec 3	8
1984***	1-42, 44-47, 52	Sept 5 - Dec 8	8
	43, 48-51, 53-76	Sept 1 - Dec 8	8
1985	1-42, 44-47, 52	Sept 11 - Dec 7	4
	43, 48-51, 53-76	Sept 2 - Dec 7	4
1986	1-42, 44-47, 52	Sept 15 - Dec 13	6 (4 mallards only)
	43, 48-51, 53-76	Sept 1 - Dec 13	6 (4 mallards only)

* Details omitted concerning some Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas according to the regulations of the surrounding W.M.Z.'s: Last Mountain Lake, Elbow, Valeport, Pasquia, Porcupine, Fort a la Corne and Horsehide Lake W.M.U.'s; Meadow Lake, Nipawin, Lac La Ronge and Clearwater River Provincial Parks; and Bronson Recreation Site.

** All special restrictions lifted from Canadian residents and non-residents.

*** 76 new wildlife management zones in effect.

Appendix 8b. Saskatchewan Goose Hunting Regulations, 1976-1986
(Details omitted concerning local closures, Wildlife
Management Units and Provincial Parks)

Year	Area* (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1976	1-6, 8, 9, 12-15, 22	Sept 29 - Dec 18	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 22 - Dec 18	5 (3 whitefronts)
	23-37	Sept 1 - Dec 11	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 23	Morning Hunting Only
1977	1-6, 8, 9, 12-15, 22	Sept 28 - Dec 17	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 21 - Dec 17	5 (3 whitefronts)
	23-37	Sept 1 - Dec 10	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 22	Morning Hunting Only
1978	1-6, 8, 9, 12-15, 22	Sept 27 - Dec 6	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 20 - Dec 16	5 (3 whitefronts)
	23-37	Sept 1 - Dec 9	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 21	Morning Hunting Only
	All Zones	On and After Oct 16	3 Additional White Geese
1979	1-6, 8, 9, 12-15	Sept 26 - Dec 15	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 19 - Dec 15	5 (3 whitefronts)
	23-37	Sept 1 - Dec 8	5 (3 whitefronts)
	1-25, 28, 30-32	Sept 1 - Oct. 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1980	1-6, 8, 9, 12-15	Sept 24 - Dec 13	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 17 - Dec 13	5 (3 whitefronts)
	23-37	Sept 1 - Dec 6	5 (3 whitefronts)
	1-25, 28, 30-32	Sept 1 - Dec 6	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1981	1-6, 8, 9, 12-15	Sept 23 - Dec 12	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 16 - Dec 12	5 (3 whitefronts)
	23-37	Sept 1 - Dec 5	5 (3 whitefronts)
	1-25, 28, 30, 32, 33	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1982	1-6, 8, 9, 12-15	Sept 22 - Dec 11	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 15 - Dec 4	5 (3 whitefronts)
	23-37	Sept 1 - Dec 4	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1983	1-6, 8, 9, 12-15	Sept 21 - Dec 10	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 14 - Dec 10	5 (3 whitefronts)
	23-37	Sept 1 - Dec 3	5 (3 whitefronts)
	1-25, 28, 30, 32, 33	Sept 1 - Oct 20	Morning Hunting Only
	1-37 (All Zones)	On and After Oct 15	3 Additional White Geese
1984	1-14, 18, 19, 20, 22-29	Sept 19 - Dec 8	5 (2 whitefronts)
	15, 16, 17, 21, 30-42, 44-47, 52	Sept 12 - Dec 8	5 (3 whitefronts)
	43, 48-51, 53-76	Sept 1 - Dec 8	5 (3 whitefronts)
	1-59, 67, 68, 69	Sept 1 - Oct 20	Morning Hunting Only
	1-76 (All Zones)	On and After Oct 15	3 Additional Snow or Ross' Geese
1985	1-14, 19, 22-29	Sept 25 - Dec 7	5 (2 whitefronts)
	15, 16, 17, 18, 20, 21, 30-42, 44-47, 52	Sept 18 - Dec 7	5 (3 whitefronts)
	43, 48-51, 53-76	Sept 2 - Dec 7	5 (3 whitefronts)
	1-59, 67, 68, 69	Sept 2 - Oct 19	Morning Hunting Only
	1-76 (All Zones)	On and After Oct 15	3 Additional Snow or Ross' Geese
1986	1-14, 19, 22-29	Sept 24 - Dec 13	5 (2 whitefronts)
	15-18, 20, 21, 30-42, 44-47, 52	Sept 17 - Dec 13	5 (3 whitefronts)
	43, 48-51, 53-76	Sept 1 - Dec 13	5 (3 whitefronts)
	1-59, 67-69,	Sept 1 - Oct 19	Morning Hunting Only
	15-18, 20-22, 30-43, 48-76	Oct 1 - Dec 13	3 Additional Snow or Ross' Geese
	1-14, 19, 23-29, 44-47	Oct 15 - Dec 13	3 Additional Snow or Ross' Geese

Appendix 8c. Saskatchewan Sharp-tailed Grouse Hunting Regulations, 1976-1986 (Details omitted concerning local closures, Wildlife Management Units and Parks)

Year	Area (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1976*	1-6, 8, 18-37,	Sept 27 - Nov 13	5
	7, 9-17	Sept 27 - Nov 13	3
1977*	1-22 (M. Mtn. Park)	Sept 26 - Nov 19 (Sept 26 - Oct 22)	5
	23-36	Sept 12 - Nov 5	5
	37	Sept 5 - Nov 5	5
1978*	1-22 (M. Mtn. Park)	Sept 25 - Nov 11 (Sept 25 - Oct 28)	5
	23-33	Sept 18 - Nov 11	5
	34-37	Sept 4 - Nov 4	5
1979*	1-22 (M. Mtn. Park)	Sept 24 - Nov 10 (Sept 24 - Oct 27)	5
	23-33	Sept 17 - Nov 10	5
	34-37	Sept 3 - Nov 3	5
1980*	1-33 (M. Mtn. Park)	Sept 22 - Nov 15 (Sept 22 - Oct 25)	5
	34-37	Sept 1 - Nov 29	5
1981**	1-33 (M. Mtn. Park)	Sept 21 - Nov 14 (Sept 21 - Oct 24)	5
	34-37	Aug 31 - Dec 5	5
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 7 - Nov 14	5
1982**	1, 7, 8 (east Hwy #2), 9-22	Oct 4 - Nov 13	5
	2-6, 8 (west Hwy #2)	Oct 13 - Nov 13	5
	23-33	Oct 4 - Nov 27	5
	34-37	Aug 30 - Nov 27	5
1983***	1-4, 7-15	Oct 3 - Nov 12	5
	5, 6	Oct 3 - Nov 12	3
	16-22	Sept 26 - Nov 12	5
	23-37	Sept 5 - Dec 3	5
1984****	1-8, 15-30	Oct 1 - Nov 10	5
	9-14	Oct 1 - Nov 10	3
	31-47	Sept 24 - Nov 10	5
	48-76	Sept 10 - Dec 1	5
1985****	1-47	Sept 30 - Nov 16	3
	48-76	Sept 9 - Nov 30	3
1986****	1-47	Sept 22 - Nov 15	3
	48-76	Sept 8 - Nov 29	3

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* Canadian and non-resident game bird licences not valid for sharp-tailed grouse in Zones 5, 6, 14 and 15.

** All special restrictions lifted from Canadian residents; non-residents permitted to hunt sharptails in Zone 5 but not in Zones 6, 14 and 15.

*** Non-residents of Canada not permitted to hunt in Zones 5, 6, 14 and 15.

**** Non-residents of Canada may not hunt sharp-tailed grouse in Zones 9-14 and 25-28.

Appendix 8d. Saskatchewan Hungarian Partridge Hunting Regulations, 1976-1986

Year	Area* (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1976	1-6, 8	Sept 27 - Nov 13	6
	7, 9-22	Sept 27 - Nov 13	3
1977	1-15	Sept 26 - Nov 19	7
	16-22	Sept 26 - Nov 19	5
1978	1-9	Sept 25 - Nov 11	6
	10-22	Sept 25 - Nov 11	3
1979	1-16	Sept 24 - Nov 10	6
	17-22	Sept 24 - Nov 10	3
1980	1-16	Sept 22 - Nov 15	6
	17-22	Sept 22 - Nov 15	3
1981**	1-16	Sept 21 - Nov 14	6
	17-22	Sept 21 - Nov 14	3
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 7 - Nov 14	6
1982**	1, 7, 8 (west Hwy #2), 9-16	Sept 27 - Nov 13	5
	2-6, 8 (east Hwy #2)	Oct 13 - Nov 13	5
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 4 - Nov 13	5
	17-22	Sept 27 - Nov 13	3
1983***	1-12	Sept 26 - Nov 12	10
	Some W.M.U.'s	Oct 3 - Nov 12	10
	13-22	Sept 26 - Nov 12	5
1984****	1-24	Sept 24 - Nov 10	10
	Elbow, Estevan-Cambria and Lomond #3 WMU's	Oct 1 - Nov 10	10
	25-47	Sept 24 - Nov 10	5
	48-55 (including Fort a la Corne)	Sept 10 - Nov 10	5
1985****	1-14, 19	Sept 23 - Nov 16	10
	15-18, 20-26	Sept 23 - Nov 16	5
	Starting September 30, also Elbow, Estevan-Cambria, and Lomond #3 W.M. Units		
	27-55	Sept 23 - Nov 16	3
1986****	1-15, 18, 19, 31	Sept 22 - Nov 15	10
	16, 17, 20-29	Sept 22 - Nov 15	5
	30, 32-55	Sept 22 - Nov 15	3

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* Details omitted concerning some Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas, according to the regulations pertaining to the surrounding W.M.Z.'s: Elbow and Last Mountain Lake Wildlife Management Units.

** Special restrictions lifted from Canadian residents. Non-residents cannot take huns in Zones 5, 6, 14 and 15.

*** Non-residents of Canada not permitted to hunt partridge in Zones 5, 6, 14, and 15.

**** Non-residents of Canada may not hunt Hungarian Partridge in Zones 9-14 and 25-28.

Appendix 8e. Saskatchewan Pheasant Hunting Regulations, 1976-1986

NOTE: Only Saskatchewan Residents may hunt pheasants (cocks only)
*Details omitted concerning some Wildlife Management Units

Year	Area* (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1975	1-6	Oct 6 - Nov 15	4
	7-17	Oct 6 - Nov 15	3
	6	Dec 8 - Dec 27	4
1976	7, 16, 17	Oct 4 - Oct 23	2
	1-6, 8	Oct 4 - Nov 13	5
	9-15	Oct 4 - Nov 13	2
	6	Dec 6 - Jan 1/77	5
1977	1-17 (L. Mtn. Lake & Elbow WMU)	Oct 3 - Nov 19	5
	6	Dec 5 - Dec 31	5
1978	1-17 (L. Mtn. Lake & Elbow WMU)	Oct 2 - Nov 11	5
	6	Dec 4 - Dec 30	5
1979	1-17 (L. Mtn. Lake & Elbow WMU)	Oct 1 - Nov 10	5
	6	Dec 3 - Dec 29	5
1980	1-17 (L. Mtn. Lake & Elbow WMU)	Oct 6 - Nov 15	5
	6	Dec 1 - Jan 3/81	5
1981	1-17 including Last Mountain Lake, Estevan-Cambria & Lomond #3 W.M.U.'s	Oct 7 - Nov 14	5
	1-5, 8	Nov 30 - Dec 12	5
	6	Nov 30 - Jan 2/82	5
1982	1-17 including Last Mountain Lake WMU	Oct 6 - Nov 13	5
	1-9, 12, 17	Nov 26 - Dec 18	5
1983	1-17 including Last Mountain Lake WMU	Oct 5 - Nov 12	5
	1-9, 12, 17	Nov 28 - Dec 17	5
1984**	1-36 (includes Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s)	Oct 3 - Nov 10	5
	1-20, 23, 24, 31, 35, 36	Nov 26 - Dec 15	5
1985	1-36 including Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s)	Oct 2 - Nov 16	3
	1-24, 29, 31, 35, 36	Dec 2 - Dec 21	3
1986	1-36 including Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s)	Oct 1 - Nov 15	3

** 76 new Wildlife Management Zones came into effect.

Appendix 8f. Saskatchewan Ruffed Grouse Hunting Regulations, 1976-1986
(Details omitted concerning some Wildlife Management Units and Parks)

Year	Area (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1976	1-15	Sept 27 - Nov 13	4
	16-22 (including Moose Mountain Park)	Sept 27 - Nov 13	6
	23-37	Sept 20 - Dec 4	6
1977	1-15	Sept 26 - Nov 19	5
	16-22	Sept 26 - Nov 19	5
	23-36	Sept 12 - Dec 10	10
	37	Sept 5 - Dec 10	10
	Moose Mountain Park	Sept 26 - Oct 22	10
1978	1-15	Sept 25 - Nov 11	5
	16-22	Sept 25 - Nov 11	10
	23-37	Sept 4 - Dec 2	10
	Moose Mountain Park	Sept 25 - Oct 28	10
1979	1-15	Sept 24 - Nov 10	5
	16-22	Sept 24 - Nov 10	10
	23-37	Sept 3 - Dec 1	10
	Moose Mountain Park	Sept 24 - Oct 27	10
1980	1-22	Sept 22 - Nov 15	5
	23-37	Sept 1 - Dec 6	5
	Moose Mountain Park	Sept 22 - Oct 25	5
1981**	1-22	Sept 21 - Nov 14	5
	23-37	Aug 31 - Dec 5	5
	Elbow W.M.U.	Oct 7 - Nov 14	5
	Moose Mountain Park	Sept 21 - Oct 24	5
1982	1-22	Sept 27 - Nov 13	5
	23-33	Sept 13 - Nov 27	5
	34-37	Aug 30 - Nov 27	5
	Elbow W.M.U.	Oct 4 - Nov 13	5
	Moose Mountain Park	Nov 1 - Nov 24	5
	Greenwater Park	Nov 1 - Nov 27	5
1983	1-22	Sept 26 - Nov 12	5
	23-37	Sept 5 - Dec 3	5
	Elbow W.M.U.	Oct 3 - Nov 12	5
	Moose Mountain Park	Oct 31 - Nov 26	5
	Greenwater Park	Oct 24 - Dec 3	5
1984*	1-47 (including Moose Mountain Park)	Sept 24 - Nov 10	5
	48-76	Sept 10 - Dec 1	5
1985	1-47 (including Moose Mountain Park)	Sept 23 - Nov 16	5
	48-76	Sept 9 - Nov 30	5
1986	1-47 (including Moose Mountain Park)	Sept 22 - Nov 15	5
	48-76	Sept 8 - Nov 29	5

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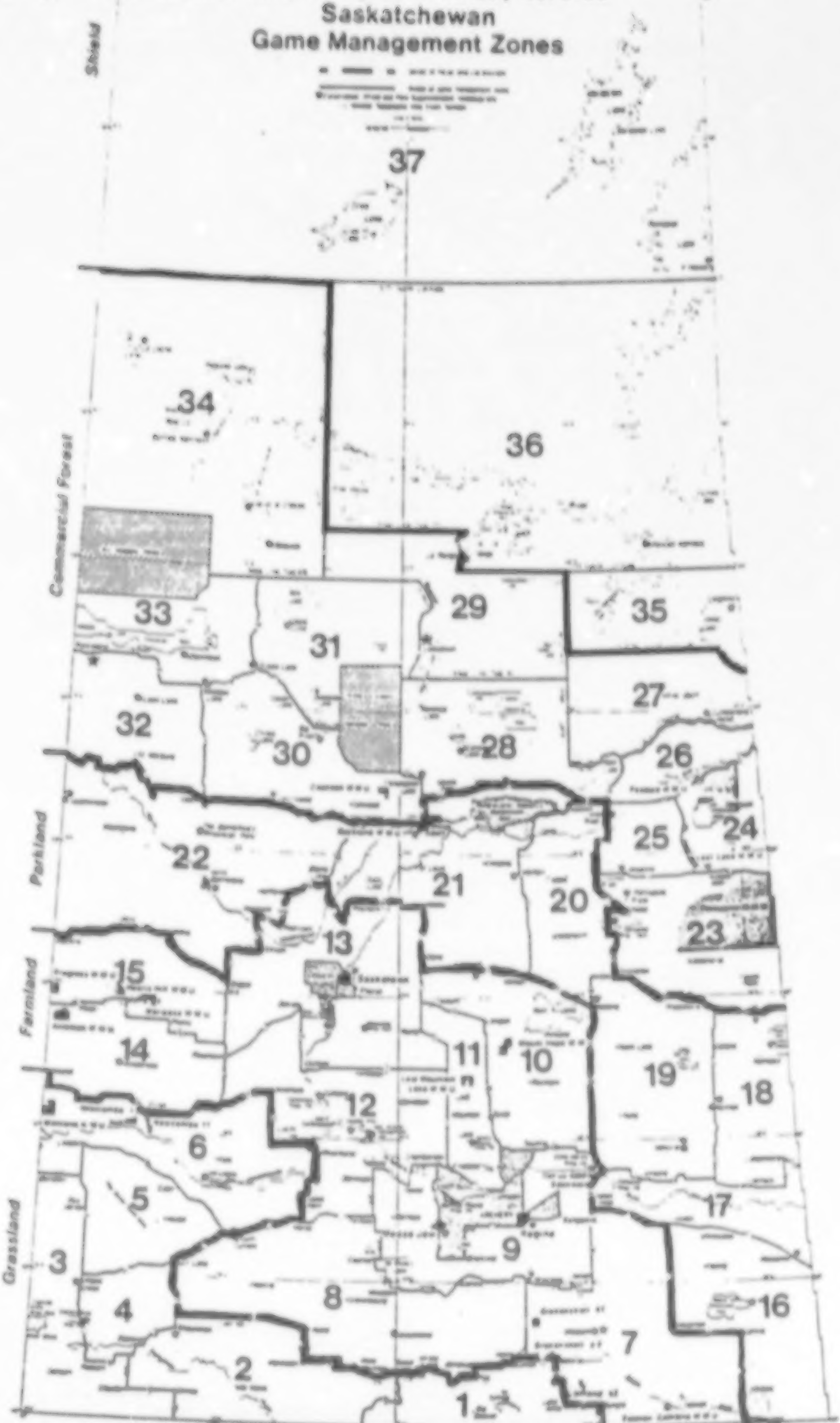
* 76 new wildlife management zones in effect

** Special restrictions removed for Canadian resident hunters. Non-residents could not take ruffed grouse in Zones 5, 6, 14 and 15.

Appendix 9. Saskatchewan Game Management Zones, 1975-83


Saskatchewan
Game Management Zones
Shield
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Commercial Forest
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28
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Parkland
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21
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23
13
15
Farmland
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Grassland
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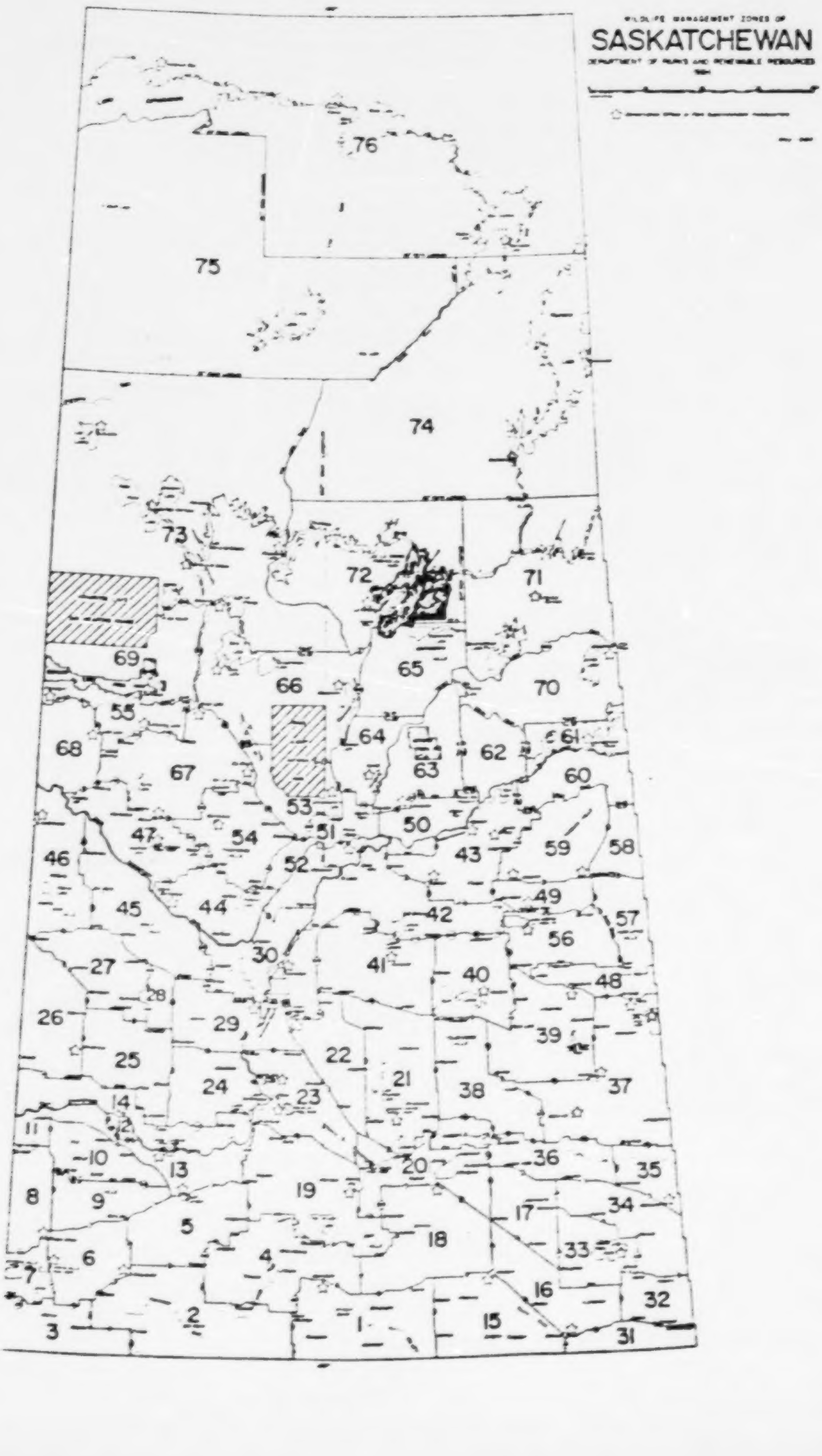
Appendix 10. Saskatchewan Wildlife Management Zones 1984-87


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
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Appendix 11. 1986 Saskatchewan Game Bird Hunter Survey Questionnaire

1986 Saskatchewan
Game Bird Hunter Survey

A MESSAGE FROM THE DIRECTOR OF WILDLIFE

Fellow Sportsman:

As one of Saskatchewan's 40,000 game bird hunters, you have been selected to receive the 1986 Game Bird Hunter Survey.

This survey is important to future game bird hunting in Saskatchewan. In view of dwindling habitat and lower-than-average bird populations, your harvest results form an integral part of game bird management in the province.

The survey provides important harvest and hunting pressure information for each wildlife management zone. We use your replies, along with spring breeding surveys and reproduction information from wing samples, to set responsible bird quotas and season dates.

Because the names for the survey are selected randomly from last year's licence sales, you may receive a questionnaire two or more years in a row.

Please take a few minutes after you have completed your 1986 bird hunting to record your activity, then mail the survey in the enclosed postage paid envelope.

Your help in filling out the Game Bird Hunter Survey is appreciated. By doing so, you contribute to better wildlife management in Saskatchewan.

I sincerely hope your 1986 hunting season is successful.

Dennis Sherratt
Director
Wildlife Branch
Saskatchewan Parks and Renewable Resources

1986 Saskatchewan Game Bird Hunter Survey

1. **If you did not purchase a 1986 Saskatchewan Game Bird Licence please check ☑ here ☐ and return immediately, thank you.**
2. Check ☑ each hunting licence you purchased in 1986, even if you were unsuccessful.
   Saskatchewan Game Bird Licence ☐ Migratory Game Bird Permit ☐
3. Check ☑ each game bird you hunted in 1986.

Sharp-tailed Grouse	☐	Pheasant	☐	Ptarmigan	☐
Hungarian Partridge	☐	Ducks	☐	Coots	☐
Ruffed Grouse	☐	Geese	☐	Common Snipe	☐
Spruce Grouse	☐	Sandhill Cranes	☐		

4. **Please record all your hunting activities, whether or not you bagged any birds.**
   - **_Use a separate line for each date you hunted;_ If you hunted in more than one zone on the same day, use a separate line for each zone. (See example below).**
   - **Record the amount of time you hunted as follows:**
     (4 or more hours = 1 day less than 4 hours = ½ day)
   - **Check** ☑ Upland Birds or Migratory Birds, or both, depending on what you hunted in each time period recorded.
   - Record only the number of birds you bagged.
   - Check ☑ any species you hunted but did not bag.
   - See examples.
5. **Please mail no later than January 17, 1987.**

EXAMPLES

Date	Wildlife Mgmt Zone	Time Hunted		Upland Birds	Migratory Birds	Upland Birds					Migratory Birds							
											Ducks			Geese				
		1 Day	½ Day			Sharp-tailed Grouse	Hungarian Partridge	Ruffed Grouse	Spruce Grouse	Pheasant	Male/Drake Mallards	Female/Hen Mallards	Other Ducks	Canadas	White-fronts	Snows & Blues	Ross'	Sandhill Cranes
Oct. 7	5		✓	✓		✓	2			1								
Oct. 7	19		✓	✓	✓	1	✓				1	✓						
Nov. 3	40	✓			✓						2	✓	1		1			
Nov. 5	55		✓	✓				2										

Hunter Comments?

HUNTERS: This page is yours to keep.

Please tear off this section before mailing back the questionnaire in the enclosed, postage-paid envelope.

SEPTEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

S	M	T	W	T	F	S
						1
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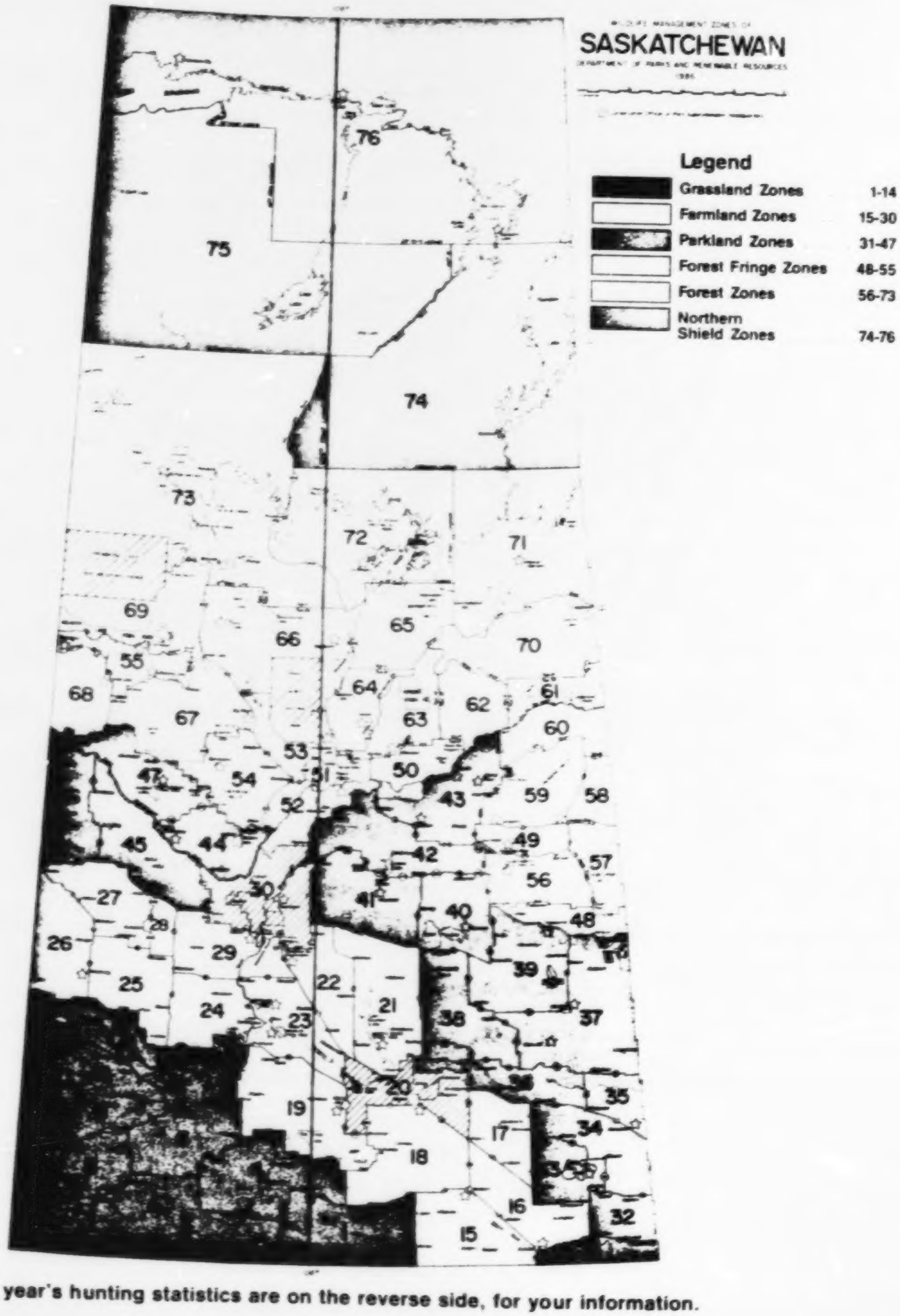
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

DECEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
1986
Legend
Grassland Zones 1-14
Farmland Zones 15-30
Parkland Zones 31-47
Forest Fringe Zones 48-55
Forest Zones 56-73
Northern Shield Zones 74-76
76
75
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Last year's hunting statistics are on the reverse side, for your information.

1985 Game Bird Hunting Activity

In 1985, duck and goose hunter days increased about 12 per cent from 1984 levels, even though active duck hunters dropped to 23,400. Duck hunters harvested only 111,000 mallards, the lowest number ever recorded, due mainly to low duck numbers and reduced bag limits. Goose hunters fared better then they did in 1984, with the harvest up by about 9 per cent.

More hunters took advantage of the sandhill crane season in 1985, and the resulting harvest was somewhat surprising — almost double the average number of cranes taken in previous years. As in past years about 74 per cent of the harvest came from Wildlife Management Zone 21.

Total upland bird hunter days again declined with 1985 levels similar to those experienced after the hard winter of 1973-74. Sharp-tailed grouse, Hungarian partridge and cock pheasant harvests were all reduced as a result of decreased numbers of hunters and lower bird populations. Ruffed grouse populations, however, have started to rebound in the Forest Fringe and Forest Zones, and hunters last fall were successful in harvesting 16 per cent more ruffies.

Game bird licence sales of 44,200 were similar to 1984.

	Harvest					Active Hunters				
	1981	1982	1983	1984	**1985**	1981	1982	1983	1984	**1985**
Ducks	240,000	292,000	326,000	183,000	**153,000**	30,000	34,000	35,000	23,800	**23,400**
Geese	159,000	155,000	213,000	162,000	**176,000**	29,000	32,000	36,000	27,400	**28,000**
Sandhill Cranes	2,200	3,500	3,000	3,100	**6,200**	1,000	1,500	1,200	1,300	**1,760**
Sharp-tailed Grouse	83,000	52,000	59,000	54,000	**41,800**	24,000	20,000	21,000	17,000	**16,000**
Hungarian Partridge	64,000	42,000	61,000	60,000	**42,000**	20,000	17,000	19,000	15,500	**12,900**
Ruffed Grouse	37,000	17,000	13,500	13,000	**15,100**	14,000	10,000	8,800	6,700	**6,400**
Spruce Grouse	6,000	3,200	4,000	4,300	**4,200**	3,100	1,900	1,600	1,500	**1,400**
Pheasant	13,000	7,500	16,000	12,000	**7,100**	4,800	3,900	6300	5,000	**3,700**

More detailed information concerning game bird management can be obtained from Wildlife Branch, Saskatchewan Parks and Renewable Resources, 3211 Albert Street, Regina, Saskatchewan S4S 5W6 or your local Parks and Renewable Resources office.

Saskatchewan

Saskatchewan
Parks and
Renewable
Resources

3211 Albert Street
Regina, Canada
S4S 5W6

December 5, 1986

Your File:
Our File:

Fellow Sportsman:

This is a friendly reminder to return the Game Bird Hunter Survey we sent you in September. However, **please disregard this letter if you are planning to do more bird hunting, or if you recently mailed your survey.**

We have enclosed another survey form and a self-addressed, postage-paid envelope in case the first set went astray.

By completing and returning the Game Bird Hunter Survey, you will be providing the Wildlife Branch with essential hunting information which cannot be obtained without your assistance. Information from last year's survey appears on the back of the enclosed form and in the 1986 Hunting Synopsis.

I am sure I can count on you to help in this way with Saskatchewan's wildlife management.

Sincerely,

Dennis Sherratt
Director
Wildlife Branch
Saskatchewan Parks and Renewable Resources

Appendix 12. 1986 Saskatchewan Game Bird Hunter Survey
Follow Up Letter

Appendix 13.

Criteria to be used to determine duck bag limits in Saskatchewan during stabilized hunting regulations, 1979-1984.

1. The duck bag limit in Saskatchewan will be 8 birds per day, 16 in possession with no species restriction except where:

   - $P + M \leq 3.0$ m. or $M \leq 1.75$ m. when the bag limit = 6 per day; 12 in possession.
   - $P + M \leq 2.5$ m. or $M \leq 1.5$ m. when the bag limit = 4 per day; 8 in possession.

   When bag limits identified by $P + M$ differ from M, $P + M$ limits will be implemented only when similar $P + M$ values occur for 2 years in a row.

2. The third option (4 bag limit) is considered a response to a crisis situation and will be considered only when equivalent harvest reductions are implemented throughout the Central and Mississippi Flyways.

(After Prairie Waterfowl Harvest Program 1979-84 - Saskatchewan).

Note: where P is the number of May ponds and M is the number of breeding mallards in southern Saskatchewan (strata 30 to 35) and m = million.

i.e. If the number of May ponds and breeding mallards totals less than 3 million or the breeding mallard population is less than 1.75 million the daily bag and possession limits will be 6 and 12.

Appendix 14. 1986-87 Midwinter Waterfowl Survey

FLYWAY	Atlantic	Mississippi	Central	Pacific	U.S. Total 1987	U.S. Total 1986
Mallard	149,300	1,924,300	1,069,500	1,455,400	4,598,500	4,409,900
Black duck	194,100	74,100	TR*		268,200	322,500
Mottled duck	200	42,000	34,500		76,700	101,900
Gadwall	9,700	490,900	124,600	80,100	705,300	808,000
Wigeon	40,300	160,700	76,500	370,300	647,800	667,500
G-W teal	64,500	234,400	541,900	351,800	1,192,600	894,200
B-W teal	9,200	80,300	2,600	1,300	93,400	124,300
Cinn teal						
Shoveler	8,200	78,800	70,300	294,900	452,200	494,800
Pintail	36,900	250,000	516,700	663,200	1,466,800	2,060,400
Wood duck	2,200	16,900	1,700	400	21,200	43,000
Whistling duck	400				400	4,400
Total Dabblers	**515,000**	**3,352,400**	**2,438,300**	**3,217,400**	**9,523,100**	**9,930,900**
Redhead	30,200	7,800	322,100	22,200	382,300	361,600
Canvasback	128,000	48,400	17,900	31,600	225,900	243,100
Scaup	341,200	453,200	59,300	87,200	940,900	1,102,000
Ringneck	59,600	186,500	21,200	14,200	281,500	255,900
Goldeneye	32,600	65,300	29,300	24,500	151,700	159,500
Bufflehead	62,600	2,200	5,500	34,800	105,100	94,200
Ruddy duck	76,500	13,400	16,500	58,000	164,400	167,300
Total Divers	**730,700**	**776,800**	**471,800**	**272,500**	**2,251,800**	**2,383,600**
Eider	66,000			TR	66,000	59,000
Scoter	24,100	TR	TR	62,500	86,600	195,000
Oldsquaw	24,500	400		200	25,100	14,300
Harlequin				100	100	300
Total Seaducks	**114,600**	**400**	**TR**	**62,800**	**177,800**	**268,600**
Mergansers	84,800	37,800	113,600	30,900	267,100	244,300
Unident ducks	22,200	6,400	10,900	14,700	54,200	58,300
TOTAL DUCKS	**1,467,300**	**4,173,800**	**3,034,600**	**3,598,300**	**12,274,000**	**12,885,700**
Brant	110,500			16,200	126,700	124,100
Snow goose	102,000	1,013,300	964,000	336,000	2,415,300	2,202,600
Blue goose						
Ross' goose						
White-fronted goose		71,500	194,500	70,500	336,500	225,300
Canada goose	744,700	1,026,400	844,700	354,100	2,969,900	2,816,200
TOTAL GEESE	**957,200**	**2,111,200**	**2,003,200**	**776,800**	**5,848,400**	**5,368,200**
Whistling swan	94,400	100	TR	52,800	147,300	157,000
Trumpeter swan		100	TR	1,400	1,500	1,700
Mute swan	5,300	800		TR	6,100	4,900
TOTAL SWANS	**99,700**	**1,000**	**TR**	**54,200**	**154,900**	**163,600**
COOT	602,800	750,300	234,700	187,600	1,775,400	1,327,500
GRAND TOTAL	**3,127,000**	**7,036,300**	**5,272,500**	**4,616,900**	**20,052,700**	**19,745,000**

*TRace - fewer than 50.

Appendix 15. Upland Game Bird Hunters Active in Saskatchewan, 1972-1986

Year	All Upland Bird Hunters	Sharp-tailed Grouse	Hungarian Partridge	Ruffed Grouse
1972	33,985	28,496	23,253	10,894
1973	28,500	23,498	20,741	9,102
1974	21,857	16,041	15,276	7,477
1975	27,812	19,746	17,356	12,091
1976	39,035	27,976	22,835	14,782
1977	41,772	29,794	25,535	17,757
1978	36,766	27,577	21,320	17,042
1979	36,373	28,221	21,041	17,545
1980	36,786	27,949	20,698	18,363
1981	32,147	24,461	19,617	14,466
1982	26,884	20,375	17,056	10,215
1983	28,266	21,068	19,014	8,754
1984	22,334	17,164	15,511	6,706
1985	20,777	15,838	12,867	6,427
1986	28,849	21,860	17,964	10,147

Appendix 16. Upland Game Bird Reproductive Index, 1972-1986
(Based on Wing Samples from harvest)

Juveniles/Adult in Harvest

Year	Sharp-tailed Grouse	Hungarian Partridge	Ruffed Grouse
1972	1.45	4.06	Not Available*
1973	1.21	4.80	Not Available*
1974	2.09	3.49	Not Available*
1975	1.78	3.74	Not Available*
1976	1.19	2.56	Not Available*
1977	0.82	2.79	Not Available*
1978	2.01	2.88	Not Available*
1979	1.62	3.92	2.43
1980	0.93	3.11	1.41
1981	0.77	1.50	2.30
1982	1.96	2.99	2.28
1983	1.45	3.20	2.51
1984	0.97	2.67	1.97
1985	1.71	3.60	3.45
1986	1.68	5.50	3.37

*Prior to 1979 ruffed grouse wings were not collected from hunters.

Appendix 17 . Sharp-tailed Grouse Reproduction* in Saskatchewan, 1986

Wildlife Management Area	Sample Size (wings)	% Juveniles	Juveniles/Adult
WMZ 4	51	75	2.92
GRASSLAND	158	69	2.22
WMZ 19	115	66	1.95
WMZ 21	133	64	1.77
WMZ 30	69	51	2.03
FARMLAND	517	62	1.60
PARKLAND	103	50	1.02
FOREST FRINGE PLUS FOREST	60	77	3.29
PROVINCE	838	63	1.68

*Based on sample of wings from hunter-killed birds.

Appendix 18. Sharp-tailed Grouse Reproductive Index, 1975-1986 (From Wing Samples)

(Juveniles/Adult in Harvest)

Year	Grassland	Farmland	Parkland	Forest	Province
1975	1.67	1.95	1.06*	2.38*	1.78
1976	0.76	1.62	2.09	1.42	1.19
1977	0.56	0.88	0.84	2.80*	0.82
1978	2.00	2.18	1.78	2.73*	2.01
1979	0.73	1.75	1.68	3.81	1.62
1980	0.46	0.94	1.66	1.51	0.93
1981	0.62	0.81	0.98	0.62	0.77
1982	0.85	2.19	2.44	2.50	1.96
1983	1.07	1.62	1.36	0.58	1.45
1984	0.53	1.06	1.71	2.33	0.97
1985	1.08	1.94	1.36	8.67*	1.71
1986	2.22	1.60	1.02	3.29	1.68
1975-85 $\bar{x}$	0.94	1.54	1.54	2.67	1.38

*Sample less than 50 wings

Appendix 19. Sharp-tailed Grouse Breeding Index (Males/mi², Males/km²) and Harvest 1972-87

Year	Grassland		Farmland		Parkland		Province		Harvest
	/mi²	(/km²)	/mi²	(/km²)	/mi²	(/km²)	/mi²	(/km²)	
1972	4.17	(1.61)	N/A	--	N/A	--	3.64	(1.41)	107,813
1973	4.53	(1.75)	4.50	(1.74)	2.40	(0.93)	3.04	(1.17)	88,178
1974	3.42	(1.32)	3.10	(1.20)	1.10	(0.42)	2.10	(0.81)	48,808
1975	4.58	(1.77)	4.00	(1.54)	2.50	(0.97)	3.46	(1.34)	60,427
1976	4.51	(1.74)	4.79	(1.85)	3.82	(1.47)	4.36	(1.68)	130,784
1977	5.16	(1.99)	6.97	(2.69)	4.90	(1.89)	5.30	(2.05)	107,003
1978	3.37	(1.30)	5.92	(2.29)	5.15	(1.99)	4.59	(1.77)	104,497
1979	5.82*	(2.25)	9.00	(3.47)	5.40	(2.08)	6.60	(2.55)	126,824
1980	4.70	(1.81)	6.90	(2.66)	5.20	(2.01)	6.00	(2.32)	108,455
1981	2.90	(1.12)	4.70	(1.81)	4.90	(1.89)	4.10	(1.58)	82,745
1982	3.04	(1.17)	3.54	(1.37)	3.68	(1.42)	3.36	(1.30)	51,741
1983	2.30	(0.89)	3.30	(1.27)	3.60	(1.39)	3.00	(1.16)	58,823
1984	3.40	(1.31)	4.25	(1.64)	3.32	(1.28)	3.50	(1.35)	54,233
1985	2.34	(0.90)	3.47	(1.34)	3.19	(1.23)	3.06	(1.18)	41,788
1986	4.19	(1.62)	5.38	(2.08)	4.40	(1.70)	4.88	(1.88)	78,565
1987	7.41	(2.86)	7.46	(2.88)	5.09	(1.96)	6.81	(2.63)	--

*Based on only 2 survey blocks completed
(Meyronne 29 mi² - 108 males)
(Sceptre South 20 mi² - 177 males)

Appendix 20. Saskatchewan Sharp-tailed Grouse and Hungarian Partridge Harvest 1972-1986

Year	Sharp-tailed Grouse Harvest	Hungarian Partridge Harvest
1972	107,813	77,093
1973	88,178	74,668
1974	48,808	33,608
1975	60,428	45,125
1976	130,784	90,897
1977	107,003	93,616
1978	104,497	60,585
1979	126,824	69,127
1980	108,455	66,349
1981	82,745	64,349
1982	51,741	41,743
1983	58,823	61,073
1984	54,233	59,794
1985	41,788	41,998
1986	78,565	92,270

045

Appendix 21. Hungarian Partridge Reproduction* in Saskatchewan, 1986

Wildlife Management Area	Sample Size (wings)	% Juveniles	Juveniles/Adult
WMZ 4	155	83	4.96
GRASSLAND	249	84	5.07
WMZ 15	102	89	8.27
WMZ 19	86	85	5.62
WMZ 21	78	85	5.50
FARMLAND	442	85	5.70
PARKLAND	37	86	6.40
PROVINCE	728	85	5.50

*Based on sample of wings from hunter-killed birds. Areas with samples of less than 50 not shown.

023

Appendix 22. Hungarian Partridge Reproductive Index 1975-86
(From Wing Samples)

(Juveniles/Adult in Harvest)

Year	Grassland	Farmland	Parkland	Province
1975	2.85	4.58	2.33	3.74
1976	1.69	3.70	3.50	2.56
1977	4.23	2.57	3.25	2.78
1978	2.77	2.95	5.00	2.97
1979	2.18*	4.42	2.57	3.92
1980	2.24	3.17	5.33*	3.11
1981	1.38	1.52	1.46	1.50
1982	5.00*	2.86	3.50	2.99
1983	2.38	3.46	6.00	3.21
1984	2.13	3.42	3.10	2.67
1985	3.40	3.88	3.67	3.60
1986	5.07	5.70	6.40*	5.50
1975-85 $\bar{x}$	2.75	3.32	3.61	3.00

*Sample less than 50 wings

038

Appendix 23. Saskatchewan Pheasant Licence Sales, Hunting Activity and Harvest, 1972-1986

Year	Harvest	Licence Sales	Active Hunters
1972	10,195	5,097	3,921*
1973	18,260	6,329	4,348*
1974	8,589	3,935	3,642
1975	10,398	4,816	3,810
1976	14,488	6,166	4,619
1977	19,097	6,973	5,726
1978	10,165	6,186	4,476
1979	7,060	5,341	3,441
1980	11,823	6,019	4,150
1981	12,536	6,418	4,825
1982	7,511	5,713	3,915
1983	15,857	0	6,348
1984	12,182	0	4,975
1985	7,084	0	3,704
1986	10,557	0	4,767
1972-86 $\bar{x}$	11,720	1972-82 $\bar{x}$ 5,727	1972-86 $\bar{x}$ 4,444

*Interpolated from harvest estimate divided by birds taken per active hunter.

042

Appendix 24. Saskatchewan Pheasant Spring Breeding Population Index and Harvest, 1972-1987

Year	Provincial Index Crow Call Per Stop	Source of Data	Harvest
1972	2.72	1975 season proposals	10,195
1973	3.83	1975 season proposals	18,260
1974	1.43	1975 season proposals	8,589
1975	1.82	1976 spring pheasant surveys	10,398
1976	2.05	1976 spring pheasant surveys	14,488
1977	2.91	1978 season proposals report	19,097
1978	2.00	1978 season proposals report	10,165
1979	1.89	1980 season proposals report	7,060
1980	2.94*	1980 season proposals report	11,823
1981	2.90	1981 season proposals report	12,536
1982	2.20	1982 season proposals report	7,511
1983	3.60	1983 season proposals report	15,857
1984	3.25**	1986 season proposals report	12,182
1985	1.93	1986 season proposals report	7,084
1986	1.78	1986 season proposals report	10,557
1987	4.86	1987 season proposals report	--

* This index excludes routes new or altered from 1979 or 1980 and excludes the Val Marie route (poorly done in 1979).

**Index excludes routes not comparable to 1985.

Appendix 25. Ruffed Grouse Reproduction* in Saskatchewan, 1986

Wildlife Management Area	Sample Size	% Juveniles	Juveniles/Adult
FARMLAND	49*	76	3.08
WMZ 33	126	84	5.30
WMZ 37	73	79	3.87
PARKLAND	253	81	4.27
FOREST FRINGE	120	75	3.00
WMZ 56	86	70	2.31
WMZ 63	98	88	7.17
WMZ 67	262	76	3.09
WMZ 69	113	74	2.90
FOREST	781	76	3.22
PROVINCE	1203	77	3.37

*Based on sample of wings from hunter-killed birds. Areas with samples of less than 50 generally not shown.

022

Appendix 26. Ruffed Grouse Reproductive Index, 1979-1986
(From Wing Samples)

Juveniles/Adult in Harvest

Year	Farmland	Parkland	Forest Fringe (WMZ 48-55)	Forest	Province
1979	1.96	2.38	N/A	3.00	2.43
1980	1.03	1.39	N/A	1.84	1.41
1981	1.19	3.12	N/A	2.77	2.30
1982	1.23*	2.43	N/A	3.80*	2.28
1983	1.14*	2.29	N/A	4.80	2.51
1984	1.90*	1.75	3.17	1.93	1.97
1985	1.11*	3.62	3.24	3.77	3.45
1986	3.08*	4.27	3.00	3.22	3.37
1979-85 Average	1.36	2.43	N/A	3.13	2.34

*Sample size less than 50 wings

039

Appendix 27. Saskatchewan Ruffed and Spruce Grouse Harvest, 1972-1986

Year	Ruffed Grouse Harvest	Spruce Grouse Harvest
1972	29,853	3,789
1973	12,743	1,363
1974	14,205	3,220
1975	36,274	10,341
1976	83,805	13,066
1977	94,353	15,990
1978	94,203	11,779
1979	86,309	13,164
1980	91,519	11,580
1981	36,711	5,876
1982	16,886	3,175
1983	13,521	3,945
1984	12,986	4,345
1985	15,074	4,229
1986	47,978	11,883